"ENVIRONMENTAL DATA INVENTORY
ANALYSIS FOR LAND USE PLANNING"
78-092 "Collection of data for
development of a Coastal Zone Manage-
ment Plan for the Quileute Reservation
LaPush, Washington - Quileute 1978

ENVIRONMENTAL DATA INVENTORY ANALYSIS FOR LAND USE PLANNING

Prepared for the Quileute Indian Tribe
by Southside Community Consultants

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DESCRIPTION OF PROJECT

To date, no tribal government mechanism exists for directing land use on the reservation. However, the desire exists to establish a land use planning program. As a necessary step to begin such a program, a planning committee has been established to guide future program development. A first step in such a program is the evaluation of existing sources of data that might assist land use planning. Diverse sources of information could conceivably be referred to to guide land use decision-making. One could easily be "overloaded" with information that, though available, is not suitable for making rational, well-documented future decisions about the reservation's physical environment. Decisions about the data base for planning must therefore be made to determine what information is or is not important for tribal decision--making and in what form this information should be made available for planning purposes. Recognizing that the real utility of any information base for land use planning will only be realized with the successful development and implementation of an overall land use plan for the Quileute Reservation, a schematic diagram of a planning program is offered ("A Guide to Development of a Land Use Plan") as an indication of where the present assessment of biophysical information might fit into a long-term planning process designed to bring about systematic land use planning on the Quileute Reservation. This is only a model lacking much detail. Supporting information that could be produced at various logical points during such a planning program is identified.

South Side Community Consultants were contracted on May 22, 1978, to begin a program leading to development of an environmental suitability profile of reservation lands. The first step of the program was to evaluate whether the existing bio-physical data describing reservation lands is suitable to begin a land use planning program. At that time, there was some question as to the possible "tangible" products that would arise from this evaluation process. In conversation with the Quileute planning staff, an agreement was reached which provided the consultant with the time required to assess the available information in detail before committing themselves to any specific products. The project was therefore divided into the following two phases:

Phase 1. Inventory and Analysis of Data; including:

- documentation of existing information to assess its utility for land use planning on the reservation
- exploring alternative means of producing a basemap that would permit analysis of "mappable" land use planning information at the reservation scale.

- determination of gaps in existing information and suggestion of how they could be filled. (Realizing that resources are limited it seemed important to prioritize information gaps permitting those most crucial for beginning land use planning to be filled first.)

Continuation into Phase 2 is not automatic but is dependent upon the consultants' findings and recommendations and the Quileute's officials' resulting wishes to act upon them in one or all of the above areas researched by the consultants. Phase 2 would tentatively consist of the following:

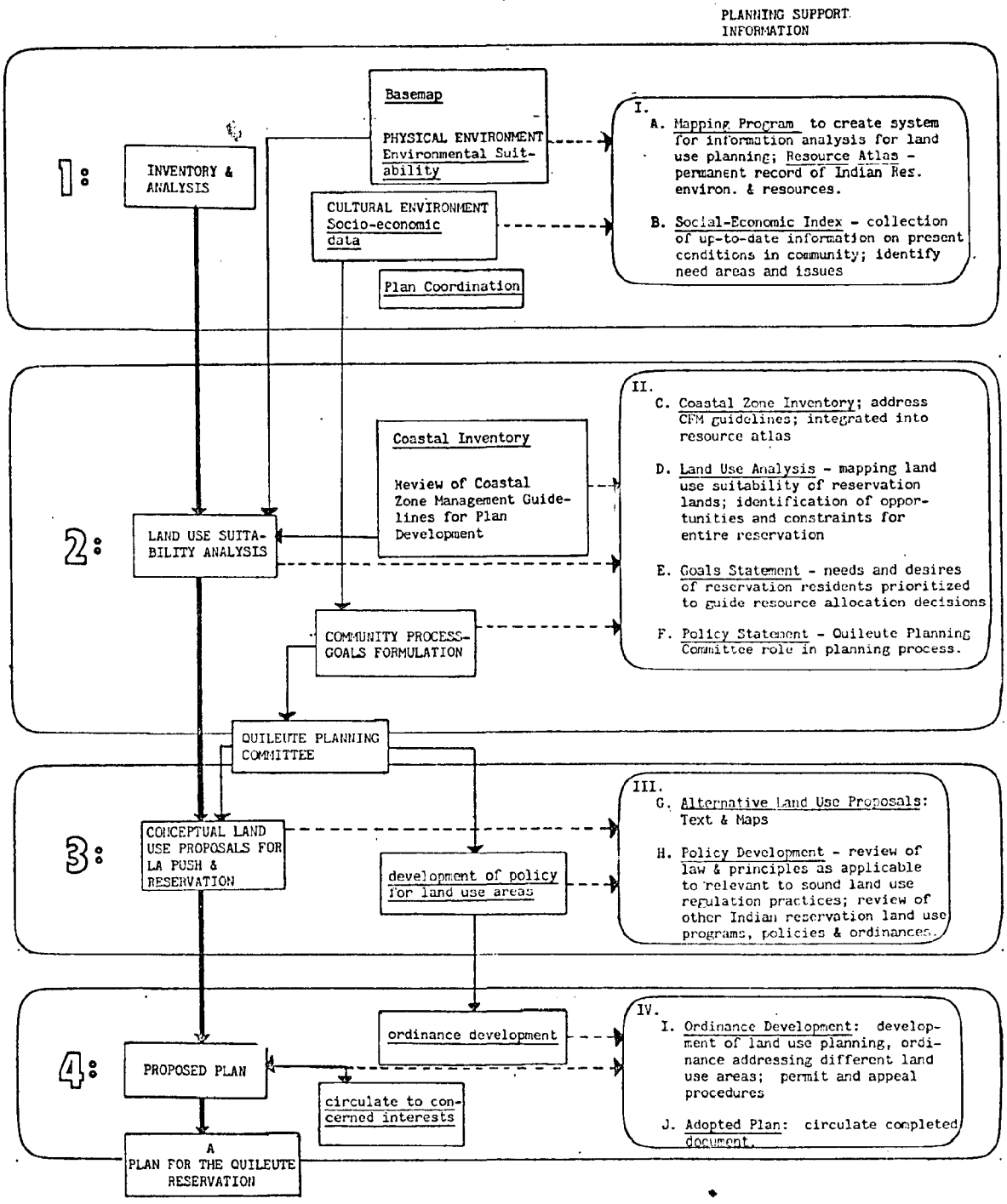
Phase 2. Information Development and Mapping:

- base map development
- mapping whatever data is available to begin work towards an environmental suitability profile for reservation lands
- proposals to fill information gaps using tribal resources

The eventual goal of this information inventory and analysis is understood to be the development, within the Quileute Planning Staff, of the capacity for development, implementation, and maintenance of a comprehensive land use plan based upon environmental principles.

This report consists of the consultants' findings and recommendations developed during Phase 1 of this two-phase project.

A GUIDE FOR THE DEVELOPMENT OF A LAND USE PLANNING PROGRAM: for QUILEUTE RESERVATION



PROCEDURES USED IN THE DATA ASSESSMENT PROCESS

Goals of This Document -

Alternative goals of this early assessment period were carefully considered before work commenced. It was decided that there could be a tangible product developed that would not only permit the consultants to determine the feasibility of an environmental suitability profile for the reservation, but, if care was taken, the data assessment could also serve as a permanent index of land use planning information resources for the Quileute Planning Staff. The format used to index information is a flexible one and could be expanded upon with little trouble. The description of the assessment process that follows hopefully will help involve those who will be instrumental in developing a land use environmental suitability data base for reservation planning.

The Process -

The figure titled "A Bio-Physical Data Assessment Process" outlines the entire data assessment process in detail. Basically, the assessment process consists of answering three questions about each piece of bio-physical information found relevant in some way for reservation land use planning. These questions consist of the following:

a) Does the information tell you something important for land use planning decisions?
b) Is this important information something you didn't know before?
c) Can this information be used to identify and describe a particular location on the reservation or its surrounding area.

Each of these questions have been addressed systematically through separate analysis. Further detail is provided in the figure under the headings, What is important to know?; What is known?; Where does it apply? The findings of these analyses have been used to determine the usefulness of existing data and also what additional data is needed.

Filling Data Gaps -

It became evident early in the assessment process that critical gaps would be left unfilled. Anticipating this we have been investigating ways to fill these gaps through consultation with private firms and relevant federal, state and local agencies' personnel. Recommendations on alternative means available for filling critical information gaps are included in the summary of comments and recommendations section of this report.

A Bio-Physical Data Assessment Process

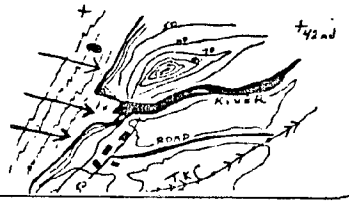
ANY PIECE OF INFORMATION HAS THREE IMPORTANT CHARACTERISTICS THAT MUST BE EXAMINED IN ORDER TO ASSESS ITS VALUE FOR LAND USE PLANNING:

1. DOES IT TELL YOU SOMETHING IMPORTANT IN LIGHT OF THE DECISIONS TO BE MADE REGARDING LAND USES?
2. IS WHAT IT TELLS YOU SOMETHING YOU DIDN'T KNOW BEFORE?
3. CAN THE LOCATION TO WHICH IT APPLIES BE IDENTIFIED?

AN ENVIRONMENTAL INFORMATION FRAMEWORK

a. How should environmental information be categorized so that all critical man-land-water relationships will be addressed?
b. What is each category and why is it important for reservation land use planning?
c. What possible sources of additional information exist?
d. For systematic analysis of all information, what form is most desirable to have the information in?

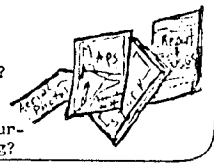
what is important to know?



SURVEY OF EXISTING DATA

e. What information exists? What is its original source and where can it be found for reference?
f. Does the information describe the reservation only (site scale) or is the reservation included in a much larger study with less specific details (Provided regional scale),
g. Does the information apply to a particular location on the reservation or is it merely a general description without a specific geographic point of reference? (In other words, is the information mappable?)
h. What different types of data are presented and in how much detail. Is it sufficient in both detail and accuracy to be useful for land use planning decision-making?

What is known?



A LOCATIONAL DEVICE

i. How will the basemap be used in the planning program?
j. What characteristics should the basemap possess?
k. Does a suitable basemap exist or can it be developed at an acceptable cost?

Where does it apply

ASSESSMENT PRODUCTS

using these inputs, an assessment was undertaken to answer the following:

*What existing data is of little or no value for a land use environmental suitability analysis?

*What existing data can be used or adapted to be included in a systematic information framework?

*What are the information gaps left unfilled by existing suitable information?

*What steps can be followed to begin to fill remaining information gaps, working to develop sufficient information to complete an environmental land suitability analysis?

BASEMAP DEVELOPMENT

A suitable base map is needed to record the data which is compiled. The essential elements of any base map are topography, land and water interface, boundary, and cultural features such as roads and structures. There are many options that can be considered. The decision must be sensitive to the following:

1. Utility - What is the map to be used for, and what type of map will accommodate the greatest number of needs?
   RECOMMENDATION: Create the most versatile map affordable, so that it will meet future land use planning needs as well as the immediate needs of mapping environmental data.

2. Accuracy - What degree of confidence must be placed on the mapped data, and the relationship between the mapped data and the features on the base map? An accurate map must have surveyed points for elevation and horizontal reference.
   RECOMMENDATION: If the map is to have maximum utility, it should be accurate. On-site verification of elevation and verification of of scaling distances are necessary to provide a dependable map of topography and a true scale.

3. Scale - How large should the map be, and what degree of accuracy is implied by a large map vs. a small map scale?
   RECOMMENDATION: The scales that might be considered are 1" = 400 ft., 1" = 200 ft. and 1" = 100 ft. The approximate size and price of drafting a new map from aerial photographs follow:

SCALE	SIZE	PRICE
1" = 400 ft.	18 x 18	$900
1" = 200 ft.	36 x 36	1200
1" = 100 ft.	72 x 72	1700

   Too large a scale will result in a map which is too small to represent the data. Too small a scale will result in generalized data being placed on too highly sophisticated a base, implying a degree of confidence that is too great. We recommend the map be created at a scale of 1" = 200 ft.

4. Currency - How up-to-date must the data on the basemap be?
   RECOMMENDATION: The basemap should contain the most up-to-date information. New structures must be represented. If the new basemap does not have this information, it must be updated by manual methods. Topography should also be current to account for fill and land grading. We recommend the map be created from recent aerial photographs so that current topography and cultural features can be represented.

5. Replicability - Will the map be able to be reproduced and many copies able to be made from it in the future? Will the map be able to be updated easily without making a new map?
   RECOMMENDATION: The basemap should be reproduceable and updatable. The most suitable material is mylar. The map should be inscribed in ink to maintain clarity.

6. Cost - The more accurate and current the map, the more it will cost.
   RECOMMENDATION: Choose the alternative which provides all of the requirements at the least cost.

OPTIONS CONSIDERED TO DATE

A chart which evaluates each of the following options according to the basemap characteristics previously mentioned follows this short discussion of each option.

OPTION I - Enlarge an Existing Map

Procedure: Two maps exist with topography that covers the whole study area. One is vintage 1938 with 20 ft. contours. The other is vintage 1977 with 40 ft. contours. The scale of these maps is such that they would have to be enlarged to be used. The maps could be projected and drafted onto a reproduceable base.

OPTION II- Enlarge an Aerial Photograph

Procedure: The Corps of Engineers can provide an enlarged print (like a poster) of any aerial photograph. The most modern could be used for mapping cultural features. Topography could then be transferred onto it from either of the maps previously mentioned. If a reproduceable was needed, it could be drafted from the "poster".

OPTION III-Create New Map Using Available Air Photography and Old Survey Points for Accuracy Reference

Procedure: VTN Associates prepared a base map of the reservation for CH2M Hill. The map does not cover the whole study area, and the aerial photography was done in 1973. Contours are at 5 ft., and cultural features are correctly positioned. The survey points can be transferred from this map to a new more up-to-date air photograph, thus allowing an updated map to be prepared with 5 ft. contours, with accurately positioned cultural information. A negative of the old photograph and the new aerial photograph would have to be made and sent to a mapping service. The map product would be reproduceable. Ken Clark of Clark and Associates of Port Angeles worked for VTM at the time of the mapping. He has the survey notes for establishing the survey control points. He indicated that he would coordinate the process of getting a basemap, if this is desired.

OPTION IV- Create New Map from New Aerial Photography

Procedure: Reset ground survey points. Hire aerial photography service to refly. Have new map made from this new photography. This is the most accurate and up-to-date alternative. It is possible to coordinate the flight with other agencies, thereby saving on flight costs.

EVALUATION OF ALTERNATIVES

MEASURE	OPTION I	OPTION II	OPTION III	OPTION IV
UTILITY	Ok for compiling data, but too general for planning or recording parcel records	OK for compiling data, but limited for planning	OK for any purpose	OK for any purpose
ACCURACY	Poor - No ground control. Topography very general at 20 ft. or 40 ft. intervals	Good, but no ground control. Topography very general and inaccurate.	very good. Able to map 5 ft. contours	very good. Able to map 5 ft. contou
SCALE	Any scale, but will be distorted. Present scales are 1:62,000 and 1:24,000	any scale but will be slightly distorted	any scale. accuracy maintained.	any scale. accuracy maintained
CURRENCY	topography and culture 40 yrs. old or topography 10 yrs. old and current culture	current culture old topography	current	current
REPLIC-ABILITY	Map must be redrafted to make reproduceable	Map must be redrafted	Yes	Yes
COST	Base map: $50 Reproduceable: $300-$500	Base map: $40 Reproduceable: $300-$500	Negatives: $100 Locate Survey Points: $300 *Mapping: $1200	Survey: $30(Flight: $40(Map: $120(

*Mapping - 1:2,400 (1" = 200 ft.), inked reproduceable mylar.

Comments are provided in the summary of final recommendations.

ENVIRONMENTAL PLANNING FRAMEWORK

The Framework outline is broken down into two major parts: Part 1 consists of the Environmental Data Framework Base. The major elements required for environmental land use planning, land use suitability analysis, and for an environmental atlas. The Environmental Data Framework elements are divided into the three categories of natural resources, hazards, and limitations, and unique or sensitive areas: The mappable products and their rating of importance are also listed below:

Part 1: Environmental Data Framework Base

A. Natural Resources: The economic well-being and quality of life depends largely on the manner in which natural resources are utilized and managed. The intent of this section is to identify, quantify, and map the major resources on the reservation, thus providing for a basis to develop and conduct management and related land use planning.

Element	Product	Importance Rating
	Maps of:	1. Essential 2. Highly desirable 3. Beneficial
Fisheries	Fish runs .....3 Tribal fishing sites.....1 (historic & current) Potential aquaculture sites	
Soils: Agricultural	Prime agricultural soils.....1	
Forestry/Vegetation	Forestry resources (existing or potential).....2 Forestry community zones 2	
Minerals	Mineral resources.....2	
Water: ground water	Available ground water resources .....2 Recharge areas.....2 Water supplies.....2	
Water: Surface	Watershed delineation.....2 Location on basemap.....1	
Geologic Features	Coastal, upland and streambed features.....1	
Aesthetics	Views and Vistas.....2	
Wildlife	Habitats & Corridors.....2	
Climatic	Precipitation, wind direction, velocity.....2	

B. Hazards and Limitations

Hazards: The purpose of this information is to recognize certain natural constraints for various degrees of human development where possible adverse impacts could result in major disaster to both life and property.

Limitations: the intent of this information is not to exclude any lands from consideration for development possibilities, but rather to illustrate the degree of ease or difficulty of any area being proposed for development with the tribal planning jurisdiction. This information is purely from a natural factor point of view:

Element	Products (map of:)	Importance Rating
Soils: Septic tank limitations	Septic tank limitations.....	1
Shrink-swell potential	Shrink-swell potential.....	2
Erosion potential	Bearing capacity.....	1
	Land fill sites.....	1
	Erosion potential.....	2
Geologic: landslide potential	Landslide potential.....	1
earthquake potential	Earthquake/liquifaction.....	1
slope limitations	Slope limitations.....	1
Hydrologic: flood plain	Flood plain.....	1
surface flooding	Surface flooding (ponding).....	2
wave activity	Wave activity & damage sites...	1
Climatic: Storm/wind velocity	Wind velocity & areas of high susceptibility.....	2

C. Sensitive/Unique Areas

These above-mentioned factors are important and necessary considerations in any environmental framework base for land use planning, particularly in so far as identifying areas most capable and suitable for growth and development to occur. But there are still other environmentally unique features that should be taken into consideration when developing a land use plan. In this subsection it is intended to examine, quantify, and identify unique features such as biotic life zones, and areas of extremely productive habitats, and areas of unique cultural and historical features, to enable deliberate planning to occur which can minimize detrimental impacts of proposed activities upon such features:

Element	Products	Importance Rating
Wildlife Habitats	Terrestrial habitats & ecological zones.....	2
Habitats: Unique Species	Aquatic habitats & ecological zones.....	2
	Habitat location.....	2
Geologic Features	Unique & fragile geologic features.....	2
Culturally Unique Areas	Archeological sites, historic sites, & other cultural areas.	2

The remaining portion of this section contains a flow program depicting the interrelationships between the above-mentioned Framework elements and their potential use in an environmental land use scheme. The diagram is intended as a conceptual model to illustrate the complex and interdependent nature of environmental land use planning.

The next section following contains individual data element sheets for each of the 24 elements described above. These sheets assess the need for the information, available sources of information, desired products (and the availability of existing information to complete these products).

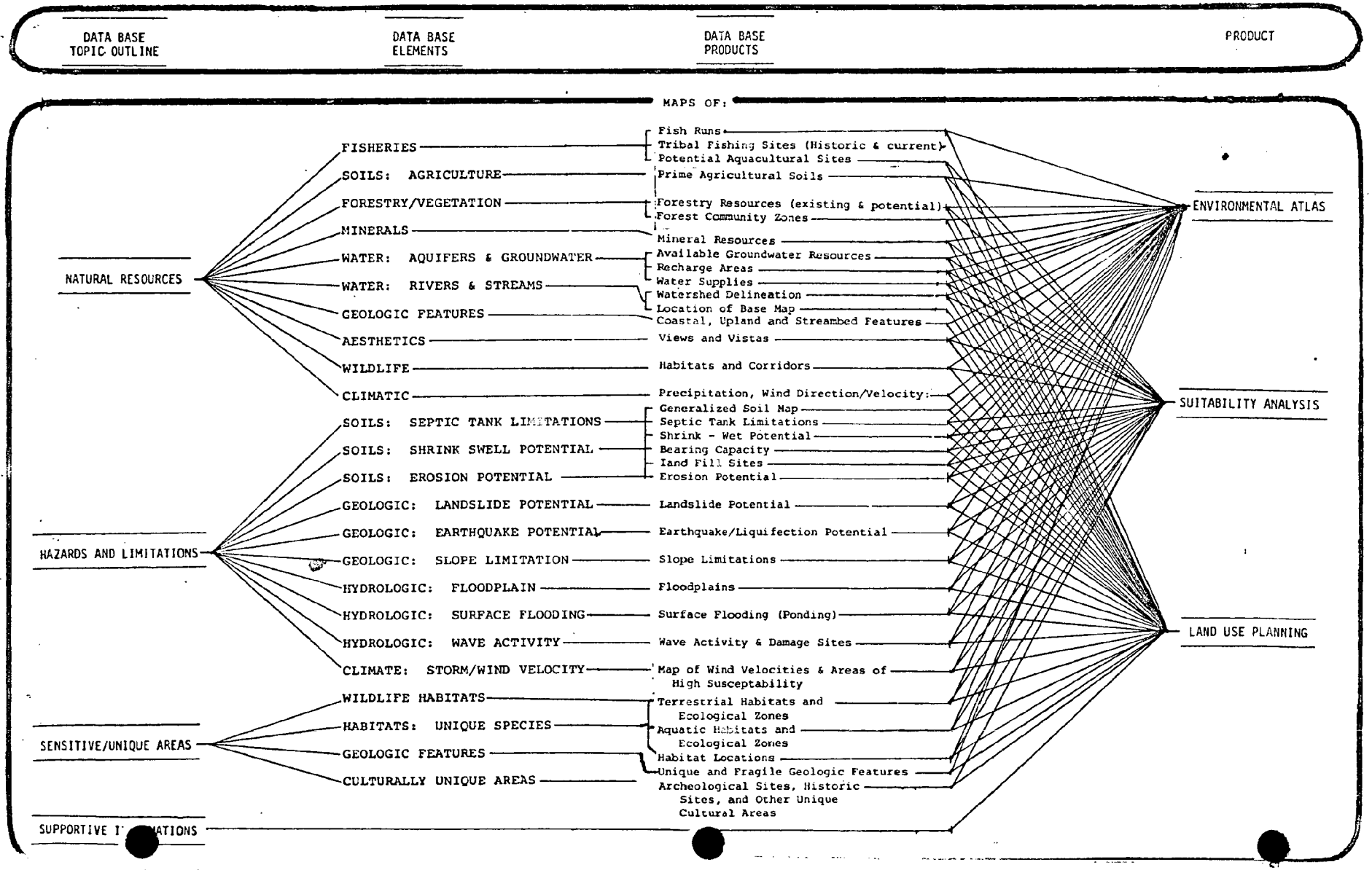
Part 2: Supportive Land Use Data Inventory Base

In order to develop a thorough land use plan, it is necessary to develop certain socio-economic information supplementary to the environmental framework elements. The development of this information was not, however, a task undertaken as part of this assessment, and therefore only a skeleton outline is provided with the sole intention to illustrate other non-environmental data which is basic for the development of a land use plan.

Element

Basemap
Map of Existing Land Uses
Map of Previously Proposed Land Uses
Map of Sewer and Water Systems, and Planned Extensions
Map of Land Ownership, Parcel Size: tabulated land values
Map of Circulation Systems
Tourism Activities: sites and significance
Population/Densities, Projected and Existing
Housing Needs, Existing Conditions
Tribal Facilities/2nd Services
Economic Factors

Comprehensive Environmental Data Base



PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: _x_ NATURAL RESOURCES (opportunities)

____ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Fisheries

TOPIC DESCRIPTION: Information necessary to realize fisheries potential as primary tribal resource. Actual development of enhancement program and promotion of aquaculture is not directly related to land use planning. However, tribal plan should reflect values of these resources and regulate land in manner consistent with tribal council & community's goals, policies & values attached to these resources.

REQUIRED INFORMATION OR ANALYSIS:
-Idenfification of areas suitable for aquaculture;
-Identification of conflicts & compatabilities in use of aquacultural sites; -Determination of enhancement potentials of existing fish runs; -Identification of fish runs; -Spawning areas; -Tribal fishing locations: historic & current; -Information on relationship between healthy fisheries & varying degrees of water quality; Impact of logging practices & other watershed management practices on water quality of fisheries.

RELATIONSHIP TO LAND USE PLANNING:

Information used as indication of fisheries potential, indication of optimal use of land for resource exploration, conservancy protection adjacent to streams & other water bodies.

SOURCES OF INFORMATION:

-Wash. Environmental Atlas
-Faculty at Peninsula College Fisheries Program
-State Game Dept.
-Tribal members
-State Fisheries Dept.
-Indian Fisheries Biologist, BIA
-Corp. of Engineers special studies
-DNR: Univ. of Wash. Baseline study, /Sequim

PRODUCTS: text: Discussion of land uses and fisheries conflicts
charts:
mapping: Aquaculture potential sites, fish runs, tribal fishing sites: historic and current.

INFORMATION AVAILABILITY:
Data available on species and seasonality but no data found which identifies information unique to Quileute shoreline and river system.

ADDITIONAL COMMENTS:
Information on habitat, spawning areas, etc. must be provided through on-site special study. Corp. of Engineers has study in progress to be completed in 1981. Staff of Quiluete Indian fisheries program should be consulted prior to any description or mapping of resources.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: _x_ NATURAL RESOURCES (opportunities)

____ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Soils: Agricultural Potential

TOPIC DESCRIPTION:
To identify land areas which have potential for agricultural productivity. Represents soils that are capable of economically efficient production of crops; to determine potential for tribal food production. Soil properties, drainage and slope, and growing season are considered in this classification.

REQUIRED INFORMATION OR ANALYSIS:
-Inventory and mapping of productive agricultural soils by type, amount, location. Information needed from soils map.
-Map of existing farms by size, type, location.
-Ownership.

RELATIONSHIP TO LAND USE PLANNING:
Planning based on soils information provides the most sensitive monitor of the lands response to man's use of the land. Identification of agric. resources enables tribal jursidiction to deliberately plan for the maximum utilization of tribal natural resources.

SOURCES OF INFORMATION:
-Soil Conservation Service
-County Extension Service
-BIA
-Clallam Co. Planning Dept.
-NW River Basin Commission, Comprehensive study of water and land related resources.

PRODUCTS: text: Description
charts: Tabulation of amount, ownership
mapping: Prime agricultural lanes

INFORMATION AVAILABILITY: Existing soil information not suitable (1938 survey); update necessary. Aerial photographs of various years: 1971 to present will provide farming information. Soil interpretations are available and once soil types are identified, then suitability analysis can be completed. Records of soil borings available on reservation which can be used to varify existADDITIONAL COMMENTS: /ing soil information. Regional soil /characteristics available, cut reserva-/tion scale data insufficient.

Dept. of Natural Resources presently involved in soil survey update for Clallam County. Possible to interview tribal members to determine interest and success in farming and/or gardening.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: _x_ NATURAL RESOURCES (opportunities)

____ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Forestry/Vegetation

TOPIC DESCRIPTION:
The purpose of this information is to assess resource value of forestry and potential for domestic and export use, and to assess management potentials. Also assess potential for energy self-sufficiency.

REQUIRED INFORMATION OR ANALYSIS:
Land ownership of forest lands, parcel size
Map of forest soils productivity potential
Timber cruise or aerial photo interpretation of existing stands
Preferred areas of timber cutting by tribal members

RELATIONSHIP TO LAND USE PLANNING:

Relationship of forestry resource to overall economy of tribe.

SOURCES OF INFORMATION:
Timber management plans of US Forest Service and DNR
DNR
USFS
Clallam County Forester
Nat'l Park Service (plans & reports)
LANDSAT interpretation
DNR photo interpretation
Univ. studies: WWU

PRODUCTS: text: Discussion of economic viability of tribal
charts: Type Worth /management of forest
Forest mapping: Forest Resource /products
Community Zones (potentials & existing)

INFORMATION AVAILABILITY:
Aerial photos available that can be interpreted. No on-site investigation which we are aware of at utilizable detail. Forest type zones mapped at regional scale under broad classifications, not relevant for reservation assessment.

ADDITIONAL COMMENTS:
Recommend talking to BIA Forestry to see if on-site timber assessment has been done; if not, recommend timber cruise done. May be useful to contact DNR and private timber companies to determine economic viability of indigenous forest types.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: x NATURAL RESOURCES (opportunities)

___ NATURAL HAZARDS AND LIMITATIONS

___ SENSITIVE/UNIQUE AREAS

TOPIC: Minerals

TOPIC DESCRIPTION:

Identification of mineral resources including sand and gravel deposits, stone quarries, mines, and other minerals such as coal deposits, etc.

REQUIRED INFORMATION OR ANALYSIS:

Geologic study and location and type of minerals located on site.

RELATIONSHIP TO LAND USE PLANNING:

Identification and utilization of mineral resources for local consumption in tribal development and exportation of resources; development of industry.

SOURCES OF INFORMATION:

-DNR, Division of mines and geology, bulletin & maps
-USGS and geologic maps
-Regional reports: Pacific NW River Basins Commission

PRODUCTS: text: Description
charts:
mapping: Location of minerals

INFORMATION AVAILABILITY:
No references sufficiently detailed to evaluate on-site conditions. Do not believe any attempt has been made to assess potential mineral wealth on reservation.

ADDITIONAL COMMENTS:
No economic minerals noted on site from references. Interpretations of geologic map necessary to determine if sand and gravel deposits might be expected. Contact Corp. of Engineers to determine if analysis is available of dredged materials. Detailed soil survey will provide additional information to assess mineral potential.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: _x_ NATURAL RESOURCES (opportunities)

____ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Water: Aquafer & Groundwater

TOPIC DESCRIPTION: Identification of available groundwater for potential and existing use for domestic, commercial & industrial water supply. Identification of location of groundwater storage and analysis of quantity and quality of resource. Identification of salt water intrusion problem areas. Location of springs and natural seeps.

REQUIRED INFORMATION OR ANALYSIS:
Groundwater survey and analysis
Well log data
Salt water intrusion
Soil map and permeability calculations

RELATIONSHIP TO LAND USE PLANNING: Contribution to known water supply servicing population and activities of tribe. Analysis of water supply capacity. Groundwater yields can generally be associated with particular types of geological formations. Three classes of expected groundwater yields developed by USGS and DNR: 600+ gpm, 35-600 gpm, and 0-35 gpm. Expected uses small to large subdivision, 1 house to small subdivision, and one to several houses respectively.

SOURCES OF INFORMATION: Info. can be used to protect recharge areas /to maintain supply.
-Dept. of Ecology & USGS presently in process of developing groundwater study.
-Indian Health Service; -Northern Olympic Coastal Basin Water Quality Management Plan; -NW River Basins Commission; -Soil Tests (Boring Sites) for on-site construction; -Tribal members.

PRODUCTS: text: Description
charts: Quality, quantity analysis, water supply
mapping: * /capacity at well sites.
*Areas of resource potential recharge areas.

INFORMATION AVAILABILITY:
Expected completion of DOE/USGS groundwater study is 3 years (1981). Depth to groundwater implied from several on-site soil boring tests.

Timing: Only data available on regional level, not relevant for reservation planning.

ADDITIONAL COMMENTS: Water service available from centralized source. Presume this is adequate. Development occurring away from water lines would require that groundwater resource be evaluated by on-site survey. New soil report and interpretation from geologic map may provide data to imply groundwater resource information.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: _x_ NATURAL RESOURCES (opportunities)

____ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Water: Rivers and Streams

TOPIC DESCRIPTION: Documentation of significant surface drainage channels, streams, creeks and rivers. Information to exist on all base maps. Detailed information on intermittant river and stream location, quantity flow and water quality, discussion of existing and proposed land uses in watershed which could have adverse effect on river system.

REQUIRED INFORMATION OR ANALYSIS:
Current aerial photographs depicting all streams, intermittant and annual flow. Water quality testing station reports and reports of quality, quantity on site. Also surface run-off characteristics.

RELATIONSHIP TO LAND USE PLANNING:
Information basic to orientation of human activities and overall land use planning. Future shoreline inventory dependent upon baseline information.

SOURCES OF INFORMATION:
USGS monitoring stations; Fairholm
EPA water quality station; Forks
North Olympia Coastal Basin Water Quality Management Plan
Dept. of Fisheries: a catalogue of Wash. Streams & Salmon Utilization
NW River Basins Commission; Local Studies: Corps. of Engineers

PRODUCTS: text:
charts: quality & quantity
mapping: on base map; sub-basins on reservation

INFORMATION AVAILABILITY:
Basin info on water quality and quantity comes from station far up river not adequately appropriate within reservation. Spawning streams are identified but not specific spawning areas within them. Topographic mapping not at suitable interval to determine surface runoff flow direction or identify small surface channels.

ADDITIONAL COMMENTS:
Corp. of Engineers plans comprehensive study to be completed by 1981. If adequate base map is developed with small contour interval information on surface, runoff can be interpreted.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: _x_ NATURAL RESOURCES (opportunities)

____ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Geologic Features

TOPIC DESCRIPTION: To develop a map of geologic features for reservation with interpretation suitable for land use planning. Geologic features have distinguishing natural characteristics such as form, composition and fragility. These characteristics can be assessed and a determination made of resource opportunity.

REQUIRED INFORMATION OR ANALYSIS:
-Geologic study of region with geologic data suitable at reservation scale.
-Site specific geologic survey of reservation.
-Interpretive information of survey for land use planning.

RELATIONSHIP TO LAND USE PLANNING:
Identification of basic geologic features and interpretation for land use planning purposes will adi the process of determining land use capability of reservation, including the identification of geologic and physiographic opportunities and constraints for tribal development.

SOURCES OF INFORMATION:

USGS geologic maps	Dept. of Ecology Coastal Zone information
Aerial photographs	
University studies	Clallam Co. Shoreline Master-Program and Inventory

PRODUCTS: text: Description & interpretation of geology of
charts: /site & vicinity
mapping: Map of site specific geologic features

INFORMATION AVAILABILITY:
No on-site data exists. Regional studies treat the topic too lightly to be of significance. Data does exist to do the interpretations if followed up with on-site survey.

ADDITIONAL COMMENTS:
Aerial photographic interpretation and on-site survey necessary to provide accurate mapping.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: _x_ NATURAL RESOURCES (opportunities)

_____ NATURAL HAZARDS AND LIMITATIONS

_____ SENSITIVE/UNIQUE AREAS

TOPIC: Aesthetics

TOPIC DESCRIPTION:
This section should attempt to document the locations of areas possessing extremely favorable views and vistas throughout the reservation. To enhance the appreciation and awareness of exceptional scenic resources of the reservation.

REQUIRED INFORMATION OR ANALYSIS:
Type of views and vistas, direction, extent, and location.
Field survey necessary.

RELATIONSHIP TO LAND USE PLANNING: The documentation of this information can allow for tribal jurisdiction to best identify location of exceptionally scenic resources & ensure the integration of future development compatable with respect to resource preservation & optimal utilization. Furthermore, this information can be effective in future open space and park plans, and minimize conflicts with National Park wilderness activities.

SOURCES OF INFORMATION:
Site Survey
Discussions with tribal members
Regional reports
NPS reports & personnel

PRODUCTS: text:
charts:
mapping: Views and vistas

INFORMATION AVAILABILITY:
Regional studies indicate many potential sites.
No information exists on reservation scale.

ADDITIONAL COMMENTS:
Information not documented although subjective survey available upon completion of fieldwork. Interview with tribal members will provide useful supplement to this information.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: _x_ NATURAL RESOURCES (opportunities)

____ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Wildlife

TOPIC DESCRIPTION:
Identification of wildlife habitats and corridors, description of species, ecological zones; relationship to reservation.

REQUIRED INFORMATION OR ANALYSIS:
Identification of flora (forest & cover) identification of fauna (by species & habitat requirements) identify ecological community relationships; identification of unique flora & fauna; identification of species & habitat requirements of endangered species. Explore man's past, present & future relationship upon ecological web including nutrient & energy flows from different food chains on & near tribe. Identify positive & negative impacts.

RELATIONSHIP TO LAND USE PLANNING:
The identification, quantification, and actual location of wildlife, their habitats & corridors through the planning process will enable tribal jurisdiction to deliberately plan to minimize the impacts of proposed activities upon such habitats & corridors, and encourage greater recognition of wildlife habitat as important resources.

SOURCES OF INFORMATION:
State Dept. of Game
Wash. State Environmental Atlas
University studies
Tribal members interview
Regional reports & special studies

PRODUCTS:
text: Description of wildlife species & habitat /importance
charts:
mapping: Map of wildlife habitat & corridors

INFORMATION AVAILABILITY:
Regional reports indicate many types of wildlife inhabit site. Environment is diverse and mostly unspoiled providing a very good habitat for many species. Very few studies actually document occurrence of species on reservation.

ADDITIONAL COMMENTS:
All pertinent agencies and persons should be contacted to see whether they have site specific information. This includes tribal members. Detailed cover type analysis would provide added useful information.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: _x_ NATURAL RESOURCES (opportunities)

____ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Climate

TOPIC DESCRIPTION:
Documentation of area precipitation, temperature, wind direction/ velocity, fog occurrence, frost occurrence, growing season and solar radiation.

REQUIRED INFORMATION OR ANALYSIS:
Tabulated climate data for the topics listed above with averages for a number of years and extreme values.

RELATIONSHIP TO LAND USE PLANNING: Information to provide background support data to other planning elements included in Nat'l. Resources & Hazards and Limitations sections. Information can be used for future consideration of alternative energy sources- as in case of solar, wave and wind energy resources and used to assist design of new structures.

SOURCES OF INFORMATION:
Coastguard data; Dr. Critchfield, geog. WWU State Climatologist; State of Washington Climatological Data NOAA; WSU College of Agriculture; Wash. Climate for Clallam County

PRODUCTS:
text: Descriptive climactic condition
charts: Charts of above: average, extreme
mapping: Possibly precip. map may be helpful for region wind direction & velocity

INFORMATION AVAILABILITY:
Information adequately available for regional analysis but very little data exists for reservation from published documents.

ADDITIONAL COMMENTS:
Contact Coastguard for any on-reservation data. Regional data is suitable if on-site data is not available. It can be interpolated for on-site application.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ____ NATURAL RESOURCES (opportunities)

__X__ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Soils: Septic Tank Limitations

TOPIC DESCRIPTION:

Soil texture, composition, and depth to water table are the primary factors for this evaluation. The determination is of areas capable for functioning as septic tank filter fields servicing tribal residential needs.

REQUIRED INFORMATION OR ANALYSIS:

-Detailed soil survey.
-Interpretive information on soil engineering properties. Each soil type can be rated according to above properties. The soil type boundaries then are mapped resulting in map of suitability.

RELATIONSHIP TO LAND USE PLANNING:

-An indicator for carrying capacity of planning area.
-Spatial delineation of acceptable areas to develop without sewer service.
-Restrictions of septic tanks in areas that would threaten fisheries resources or pose health hazard.

SOURCES OF INFORMATION:

-Soil survey, IHS, and Quileute tribal records.
-CH2M report on sewer service for LaPush (very general).
-Interpretive information.
-Miscellaneous on-site soil borings.

PRODUCTS:

text:
charts:
mapping: Map of septic tank limitations

INFORMATION AVAILABILITY:

SCS soil survey is old and not accurate at this scale of concern. Soil borings do not cover whole reservation. Regional studies not suitable.

ADDITIONAL COMMENTS:

A sophisticated and up to date soil survey is needed to interpret these soil features. The SCS has listed 6 criteria to rate land ability to accommodate properly working drainfields: 1) performance records of existing drainfields; 2) permeability; 3) depth to bedrock or impervious surface (clog); 4) flooding; 5) soil slope; and 6) seasonal and annual ground water levels.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ____ NATURAL RESOURCES (opportunities)

__X__ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Soil: Shrink Swell Potential & Bearing Capacity

TOPIC DESCRIPTION: Soil texture and compsosition are the basic factors evaluated. The property of a soil resulting in expansion or contraction due to changes in water content or temperature is the potential problem. High shrink-swell potential represents a high potential problem for urban structures in such locations.

REQUIRED INFORMATION OR ANALYSIS:

Detailed soil survey; soil interpretive information

Location of man-made fill areas.

RELATIONSHIP TO LAND USE PLANNING:

Unstable soils may pose physical limitation for particular development proposals. Base line information on location and interpretation of such unstable soils necessary prior to the development of regulatory guidelines/policies in respect to these areas.

SOURCES OF INFORMATION:

Soil Conservation Service: Soil Survey

PRODUCTS: text: Description of limitation for urban
charts: /development
mapping: Areas of high shrink-swell potential, low bearing capacity, land fill areas.

INFORMATION AVAILABILITY:
Soil survey is old and not accurate at this scale. Soil borings and engineering tests do not cover whole reservation. No other data is available.

ADDITIONAL COMMENTS:

A sophisticated and up-to-date soil survey is needed to interpret these soil features.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ____ NATURAL RESOURCES (opportunities)

__X__ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Soils: Erosion Potential

TOPIC DESCRIPTION:
Slope and texture of soil particles and proximity to erosion agents constitute the basic factors considered, the serenity of the hazard of soil eroding rapidly and presenting problems for urban development as well as the natural environment is the primary concern.

REQUIRED INFORMATION OR ANALYSIS:

-Soil Survey
-Interpretation information from soil survey
-Historical evidence of erosion
-On-site survey of conditions

RELATIONSHIP TO LAND USE PLANNING:
Several of the methods of erosion prevention include: (1) Land use planning to protect highly erodible soils from extensive excavation from urban development, and (2) regulation requiring land treatment and structural measures to minimize erosion and sedimentation at individual construction sites and maintenance of vegetation cover. Erosion leads to depletion of topsoil resource & sedimentation of /wetlands.

SOURCES OF INFORMATION:
Soil Survey
Historic maps and air photographs
On-site investigations
Regional watershed reports

PRODUCTS:
text: Description of erosion conditions and
charts: /severe areas.
mapping: Of areas with severe erosion potential.

INFORMATION AVAILABILITY:
Soil Survey is old and not accurate at this scale
Regional data is inappropriate
Topographic information is not detailed enough for analysis

ADDITIONAL COMMENTS:
See comments from Agricultural: Resources section. Accelerated erosion predominantly by urban development and agric. practices. With erosion there is an accellerated discharge of natural pollutants, principally mineral soil and organic matter. Eutrophication of water bodies, built up sedimentation, and destruction of hillsides are three examples of adverse impacts caused by erosion. A sophisticated and up-to-date soil survey is needed to interpret these soil features. Suggest on-site investigation of eroding access.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ____ NATURAL RESOURCES (opportunities)

__X__ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Geologic: Landslide Potential

TOPIC DESCRIPTION:
Soil type, underlying geology, and slope are the basic factors considered. The potential of an area to slide is due to the degree of slope and the inability of the soil to resist presents the potentially hazardous conditions for urban structures to locate in these areas.

REQUIRED INFORMATION OR ANALYSIS:
-slope map
-map depicting areas of previous landslides
-geologic map of unstable features and slopes.

RELATIONSHIP TO LAND USE PLANNING:
It is necessary to recognize areas of landslide potential as a natural constraint for certain types of land uses, as hazardous conditions may develop.

SOURCES OF INFORMATION:
-USGS topographic maps
-USGS geologic maps
-DNR division of mines and geology maps
-Miscellaneous regional description of geology
-DNR aerial photos & interpretations
-Consultant reports, Ind. recent report on landslide on reservation near landfill area.

PRODUCTS: text: Description & History of Landslide in Area
charts:
mapping: Areas of Landslide Potential

INFORMATION AVAILABILITY: Topographic maps are too general for useful slope analysis. Geologic maps are not interpreted for planning or hazard identification. Regional descriptions are unsuitable. Soil data is too old and not interpreted for this purpose. On-site surveys were designed to evaluate individual slide areas. Do not estimate potential for slides reservation-wide.

ADDITIONAL COMMENTS:
-Need on-site or aerial photographic interpretation reconnaissance. Need advice of geologist or soil scientist to interpret geology and soils data for landslide susceptability analysis.
-Two categories of landslide include 1) known landslides - through historic evidence; and 2) potential landslides, depending on slope, angle, and underlying material.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ____ NATURAL RESOURCES (opportunities)

X NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Geologic: Earthquake Potential

TOPIC DESCRIPTION:
Includes tudy of natural fault displacement areas, areas of potential high ground shaking, and liquifaction areas. All three potential for natural disaster.

REQUIRED INFORMATION OR ANALYSIS:
Soil feature, composition, and water content are the basic factors. This, in conjunction with proximity to areas of ground movement, much can be deduced from past occurrence and soil analysis.

RELATIONSHIP TO LAND USE PLANNING:

Information on natural hazardous areas provide indication for natural constraint of certain types of development. Baseline idenfitication necessary prior to implementation of regulatory guidelines/policies to insure maximum protection of public health, safety, and welfare.

SOURCES OF INFORMATION:

State Dept. of Emergency Services
U.S. Geologic Survey
Soil Survey
Historical Records

PRODUCTS: text: Past occurrence
charts:
mapping: Earthquake/Liquifaction potential.

INFORMATION AVAILABILITY:
No information was encountered on this subject. Geologic maps exist which might be interpreted by geologist. Soil survey is old and does not contain this information.

ADDITIONAL COMMENTS:
Responsible officials and agencies must be sought and interviewed. Updated soil survey will provide useful information on relevent soil conditions.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ____ NATURAL RESOURCES (opportunities)

X NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Geologic: Slope Limitation

TOPIC DESCRIPTION: Represents a potential limitation on urban development. Areas with topography in excess of approx. 16% grade (14.4%) can create potential problems for urban structures. Slope in and of itself may not create a total limitation to development; however, in combination with other factors such as soil characteristics, drainage, and groundcover, slope can create a hazardous situation at that location or adjacent thereto.

REQUIRED INFORMATION OR ANALYSIS:

Topographic map with suitable contours (5') can be integrated and slope ranges calculated and mapped. Map of steep slope areas; suggested 4 categories of 0-8%, 8-16%, 16-30%, over 30%.

RELATIONSHIP TO LAND USE PLANNING:

Natural topo-raphy of an area plays an instrumental role in determining optimal locations for various types and densities of land uses.

SOURCES OF INFORMATION:

USGS topography mapping
DNR aerial photo and interpretation
Previous reservation planning studies

PRODUCTS: text:
charts: Slope analysis
mapping: Slope limitations

INFORMATION AVAILABILITY:

Topographic maps that are now available are not suitable for accurate slope analyses. Soil survey data is too general and out-dated.

ADDITIONAL COMMENTS:

Detailed slope analysis must await completion of base map. Soil survey information will provide useful supplement.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ____ NATURAL RESOURCES (opportunities)

X
____ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Hydrologic Conditions: Floodplains

TOPIC DESCRIPTION: Map of 100 yr. and 10 yr. floodplain is desirable. The Army Corps of Engineers defines areas of overflow from river banks according to probability of occurrence. Chance of being exceeded each year.

REQUIRED INFORMATION OR ANALYSIS:

Detailed mapping of surface waterways, including thin floodways, channels, and fl-odplains of at least a 100 yr. frequency, including tidal influences, also historical data on flood frequencie and extent of previous flooding.

RELATIONSHIP TO LAND USE PLANNING:

Flooding potentials represent a natural constraint for certain types of development due to risk to life and property. Flooding presents potential for major hazardous damage to both life and property. Floodplains also provide habitats for wildlife.

SOURCES OF INFORMATION:
Dept. of Housing & Urban Development; Flood insurance maps. North Olympic Coastal Basin Water Quality Management Plan; Previous land use studies of reservation; tribal members: historical data; tribal archives: historical data

PRODUCTS: text: Description of floodplains & historical
charts: /occurrence data.
mapping: Floodplain map

INFORMATION AVAILABILITY:
Data which exists from previous studies is not documented. It is impossible to know how accurate it is, and therefore its utility is questionable. Regional studies are not appropriate. No data exists on coastal flooding.

ADDITIONAL COMMENTS:

Data must be checked to determine its source and reliability. Must be necessary to do engineering calculations. Also possible to survey residents to determine extent of historical floods from memory.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ___ NATURAL RESOURCES (opportunities)

x NATURAL HAZARDS AND LIMITATIONS

___ SENSITIVE/UNIQUE AREAS

TOPIC: Hydrologic Conditions: Surface Flooding (Ponding)

TOPIC DESCRIPTION:

Identification of wet soils, surface depressions, bogs, and other areas presenting potential for intermittent surface water ponding.

REQUIRED INFORMATION OR ANALYSIS:

-Soils information
-Topographic information
-Hydrologic/Drainage on-site study
-Historical occurrence into tribe
can be used to locate areas of surface flooding or ponding for placement on map.

RELATIONSHIP TO LAND USE PLANNING:

Identification of areas subject to ponding present limitation for development because of potential seasonal flooding of basements and damage to foundations, involving individual and perhaps tribal expenditures. Such areas should be designated for appropriate land uses.

SOURCES OF INFORMATION:

-SCS soil survey
-Interpretive data
-Interview tribal members
-Aerial photographs

PRODUCTS: text: Description of surface flooding features
charts: and historical data
mapping: Map of surface flooding and ponding potential

INFORMATION AVAILABILITY:

Soil survey is not suitable for this purpose. Topographic maps would provide some of this data. Aerial photographs, if taken during wet season, would be suitable.

ADDITIONAL COMMENTS:

Need updated and more accurate soil survey and aerial photography or get information from tribal members.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ____ NATURAL RESOURCES (opportunities)

x NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Hydrologic Conditions: Wave Activity & Drainage

TOPIC DESCRIPTION: Identification of coastal areas previously subjected to high magnitudinal wave activity, including location of cliffs, caves, sinkholes, slides, blowholes, and other coastal geologic features. Documentation of tsunami and storm surge conditions and historical areas of damage or erosion.

REQUIRED INFORMATION OR ANALYSIS:

-Beach survey
-Climatic Data on Storm Surge
-Historic Data on Tsunami

RELATIONSHIP TO LAND USE PLANNING:

Identification of coastal lands subject to rapid shoreline deterioration posing hazardous conditions for certain uses. Hazardous zones should be identified and appropriate criteria developed relating land use activities to identified areas. Potential areas of aesthetic views and scenery.

SOURCES OF INFORMATION:

-State Dept. of Emergency Services
-Coastal Impact Studies
-Park Service reports
-Regional shoreline & environmental studies
-Corp. of Engineer Reports

PRODUCTS: text: Description of Potential Hazards
charts:
mapping: Map of wave activity/damage potential

INFORMATION AVAILABILITY:

Corps of Engineers has some data on harbor.
Regional data is inappropriate.

ADDITIONAL COMMENTS:

Need to interview responsible officials and reservation residents.
On-site coastal survey investigation required.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ____ NATURAL RESOURCES (opportunities)

X
____ NATURAL HAZARDS AND LIMITATIONS

____ SENSITIVE/UNIQUE AREAS

TOPIC: Climate: Storm/Wind Velocity

TOPIC DESCRIPTION: This information will be used to evaluate the hazardous occurrence probability to life and property due to high wind velocity, and the identification of areas highly susceptible to direct damage from high wind velocities.

REQUIRED INFORMATION OR ANALYSIS:

Historic data on major storms and velocities.

Historic documentation of damage from storms.

Wind data from local sources.

RELATIONSHIP TO LAND USE PLANNING: Information on high wind velocity storms can prepare reservation to better mitigate future damage through suggested provisions on architectural and building standards to withstand storms, as well as site location to reduce chance of significant damage. The planning of other facilities, such as location of roads and public buildings would also benefit from hazardous areas identification.

SOURCES OF INFORMATION:

-State Dept. of Emergency Services
-County Dept. of Emergency Services
-Tribal Archives
-Interview with tribal members
-Coast Guard station records
-Miscellaneous reports on storms and weather conditions

PRODUCTS: text: Historic description
charts:
mapping: Map of storm-wind hazard zones

INFORMATION AVAILABILITY:

Data available from Coast Guard. No data sources were located with this data at a level of sophistication that could be used for reservation planning.

ADDITIONAL COMMENTS:

Data would have to be obtained from interviews with responsible officials and tribal historians.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ____ NATURAL RESOURCES (opportunities)

____ NATURAL HAZARDS AND LIMITATIONS

__x__ SENSITIVE/UNIQUE AREAS

TOPIC: Wildlife Habitats

TOPIC DESCRIPTION:

Mapping and description of terrestrial and aquatic habitats and their ecological zones. Information should not be limited to identification of reservation but should be regional and identifying specific sites on reservation.

REQUIRED INFORMATION OR ANALYSIS:

Identification of fragile, unique, or sensitive habitats of valued wildlife. Can be inferred from land cover analysis and regional reconnaissance.

RELATIONSHIP TO LAND USE PLANNING: The identification, quantification, and location of terrestrial and aquatic habitats and ecological zones through the planning process will allow tribal jurisdiction to deliberately plan to minimize impacts of proposed activities upon such features and cause deliberate recognition of these unique resources.

SOURCES OF INFORMATION:

Air photography
Wash. Environ. Atlas
University Research
State Game Dept.
Regional Environ. Studies
State Fisheries Dept.
Sierra Club/Audubon Society
Army Corps of Engineers study

PRODUCTS:

text: Description, quantification & identification of wildlife habitats
charts:
mapping: Mapping of location

INFORMATION AVAILABILITY:

Regional studies provide general description of habitat but not in enough detail for mapping on reservation. No on-site studies exist that delineate habitats, though some descriptive information is available from Corps of Engineers on marine habitats.

ADDITIONAL COMMENTS:

Some analysis is possible from analysis and interpretation of aerial photography. Soils information can also be used to some extent. Field survey and interview would probably be needed to provide sufficient data.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ____ NATURAL RESOURCES (opportunities)

____ NATURAL HAZARDS AND LIMITATIONS

__X__ SENSITIVE/UNIQUE AREAS

TOPIC: Habitats of Culturally Valued or Endangered Species

TOPIC DESCRIPTION: To identify the habitats of wildlife species with historic significance to tribal culture and of national significance as recognized through the State and National Endangered Species Register.

REQUIRED INFORMATION OR ANALYSIS: Identification of species of historic and cultural significance to tribe. Identification of species of state and national significance, list of endangered or rare species. Identification of habitats associated with these species. Specific detail needed on nesting sites, animal habits, seasonal occurrence, etc.

RELATIONSHIP TO LAND USE PLANNING: The identification, qualification, and location of habitats of culturally valued or endangered species through the planning process will allow tribal jurisdiction to deliberately plan to minimize impacts of proposed activities upon such habitats and cause deliberate recognition of a unique resource.

SOURCES OF INFORMATION:
-Contact with tribal members
-Wash. Coastal Atlas
-Wash. Environmental Atlas
-Wash. Marine Atlas
-State Game Dept.
-State Fisheries Dept.
-Sierra Club
-Audobon Society
-Research from various colleges and universities

PRODUCTS: text: Description, qualifications of species
charts: and identification of habitats
mapping: Mapping of habitats

INFORMATION AVAILABILITY:
Generalized information exists on required scale indicating importance of LaPush area for various species. Reports have been done on shore mammals and eagle activity.

ADDITIONAL COMMENTS:
All pertinent agencies and persons should be contacted to see whether they have site specific information. This includes interview with tribal members.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ____ NATURAL RESOURCES (opportunities)

____ NATURAL HAZARDS AND LIMITATIONS

X SENSITIVE/UNIQUE AREAS

TOPIC: Geologic Features

TOPIC DESCRIPTION:
Fossil collection locations and environmentally sensitive physiographic features such as coastal spits; estuaries, stacks etc.

REQUIRED INFORMATION OR ANALYSIS:
Location of these features - analysis is possible from aerial photography but should be supplemented with field investigation.

RELATIONSHIP TO LAND USE PLANNING:
The identification, quantification, and location of unique geologic features through the planning process will allow tribal jursidction to deliberately plan to minimize impacts of proposed activities upon such features and cause deliberate recognition of unique resources

SOURCES OF INFORMATION:
Personal contact with tribal members; DNR - geology; Geologic reports and mapping; Wash. Envir. Atlas; University research; Aerial photographs; Regional Environ. studies.

PRODUCTS: text: Description of geologic feature
charts:
mapping: Map of feature location

INFORMATION AVAILABILITY:
Regional information provides useful background data and explanation. No studies have been done to identify these features on site.

ADDITIONAL COMMENTS:

Aerial photograph interpretation and field reconnaissance needed. This can be supplemented with interview of tribal members and University and agency personnel.

PART 1: ENVIRONMENTAL DATA INVENTORY BASE

CATEGORY: ____ NATURAL RESOURCES (opportunities)

____ NATURAL HAZARDS AND LIMITATIONS

X
____ SENSITIVE/UNIQUE AREAS

TOPIC: Culturally Unique Areas

TOPIC DESCRIPTION: To identify culturally unique areas including archeological sites, significant historical sites, and unique cultural sites for the continued preservation of tribal cultural heritage, increased cultural awareness amongst tribal members and their off-spring, and for the economic potentials through tourism enhancement problems.

REQUIRED INFORMATION OR ANALYSIS:

Locational identification and documentation of archeological sites, significant historic sites, and unique cultural sites.

RELATIONSHIP TO LAND USE PLANNING: The documentation and locational identification of culturally unique areas through the planning process will allow tribe to deliberately plan to minimize impacts of proposed activities on such features, preserve heritage, encourage appreciation of unique resources, and, if desired, enhance tribal economy through increased tourism activities.

SOURCES OF INFORMATION:

Tribal archives; Personal contact with tribal members; State historian; Bureau of Indian Affairs; Archeological and Anthropological investigation of tribe; and Regional planning studies.

PRODUCTS: text: Historic documentation
charts:
mapping: Mapping of culturally unique areas

INFORMATION AVAILABILITY: Regional reports indicate high potential for finding archeological sites. Univ. of Wash. Bureau of Public Archeology has documented one large and significant site, and is studying this further. LaPush has been nominated for inclusion on national record of historical places. Much information exists, but it has not been systematically analyzed or mapped.

ADDITIONAL COMMENTS:

The recording of this information would require interview with tribal members and researchers doing investigations on the reservation.

DATA SURVEY AND RELATED FORMS:

The data survey performs two important functions. These are: (1) to document the availability and adequacy of data for planning and (2) to provide the tribe with a description of information resources that can be consulted in the future. It is necessary to document sources of secondary data because the costs of generating primary data are often too great, and which may result in duplication of information already available. The assumption is made that if adequate secondary data exists in appropriate form, it will be used. In order to determine if the data is appropriate, it must be examined and critically evaluated. The data survey form accomplishes this purpose and also provides descriptive information about the reference. The data contained in the reference is not summarized. This is a task of data transfer, not survey and evaluation.

Over 50 potential sources of data about the reservation's resources were examined. Each time data was encountered which in some way described the reservation's land area, the information was recorded on a DATA SURVEY FORM. The form describes how the data was presented. (For example whether the data was mapped or in narrative form.) The form also describes data scale, level of detail, and how the data is classified. It also indicates the general geographic coverage of the data. Finally, the data is evaluated for its utility for planning at the reservation level. Comments on the potential utility of the data are provided to suit its future use.

The data sheets can be used by the tribe to determine which documents contain data that is useful for examining particular planning concerns with a certain degree of detail. The sheets can then be used to identify the data that might be mapped, when a suitable basemap is available. If unmapped, the data sheets provide an easy means of locating data on the subject of concern.

For quick reference, a data sheet summary is provided. Each "X" represents a data survey sheet. The summary may be used to locate references topically, or to determine the topical coverage of any document.

Note: Data Survey sheets are provided under seperate cover as "Appendix B".

ENVIRONMENTAL DATA NEEDS ASSESSMENT SUMMARY

This table provides the basis for determining the feasibility of producing the products of the environmental data needs inventory. It is also a summary of the suitability of existing and available data for completion of this project.

Each product that has been determined to be useful for a comprehensive environmental data base is listed. This list comes from the "Comprehensive Data Inventory Base" assessment sheets. From the "Data Survey Forms", it is determined if the data to complete the product is: (1) available; (2) available by interpretation from source data; or (3) not available. If the data to complete the product is available, its source is indicated. In each case, the method that must be used to produce the product is listed. A judgment is then made which suggests whether it is possible to produce the desired product without additional specialized environmental studies. The basis for this determination, and in some cases the ways that substitute data might be provided, are included in the "comments" column.

It is readily seen, that though many possible sources of information were surveyed, very little information is available to do an environmentally based land use suitability analysis. This analysis is supported by the data survey sheets provided in the appendix.

Data Need			Availability			Assessment		
Data Element	Form	Scale	YES	w/interpretation	NO	Source	Method of Interpretation/Analysis	can be produced	Comments
I. NATURAL RESOURCES									
A. FISHERIES									
1. Tribal Fishing Sites	Map	Site			X	None	Interview with tribal members.	Yes	Must interview tribal members.
2. Potential Aqua-culture Sites	Map	Site			X	None	Potential suitability can be inferred from water quality and geological analysis.	No	Will require prior studies to obtain necessary hydrological and geological data which is not now available. May be provided by Corps of Engineers' study, to be completed in 1981.
3. Fish Runs	Map	Site			X	None	Field survey.	No	Must be done by fisheries biologist. Perhaps tribe can provide technical data. Corps of Engineers' study is to provide this data by 1981.
B. SOILS									
1. Prime Agri-cultural Soils	Map	Site		X		Soil survey of Clallam County, 1951.	Interpretation from soil survey using interpretation tables.	Yes	Data is old and boundaries not exact. New soil survey would provide better level of analysis, but old survey is sufficient.
C. FORESTRY/VEGETATION									
1. Forestry Resources	Map	Site		X		Aerial Photographs LANDSAT Data - Bendix Corporation.	Interpretation of aerial photo-graphy and/or field study.	No	Interpretation needed by competent air photo interpreter.
	Chart	Site			X	None	Field study (timber cruise)	No	Would need timber cruise by forester to obtain data on type/quantity/ worth.
2. Forest Com-munity Zones	Map	Site		X		Aerial photographs LANDSAT Data - Bendix Corp.	Interpretation of aerial photography.	No	Interpretation needed by competent air photo interpreter.
D. MINERALS									
1. Mineral Resources	Map	Site			X	None	Interpretation from detailed soil and geologic maps. Interview with tribal members.	No	A thorough assessment of mineral potential would need study by geologist. Interview with tribal members could substitute in lieu of actual geological survey.
E. WATER (Ground)									
1. Resource Potential Map	Map	Regional or Site			X	None	Soil survey, geological data, and well records can provide suitable data to map areas or depths where water may be available.	No	Will require prior studies to obtain necessary hydrological and geological data.

*Without additional studies.

Data Need			Availability			Assessment			
Data Element	Form	Scale	YES	YES w/interpretation	NO	Source	Method of Interpretation/Analysis	can be produced	Comments
I. NATURAL RESOURCES									
2. Recharge Areas	Map	Site			X	Soil survey.	Interpreted from soil survey interpretation tables.	No	Old soil survey is not suitable. Must have new, more site specific survey information.
3. Water Supply (Quality/ Quantity)	Chart	Site		X		Indian Health Service.	Well records contain this information. The well sites would have to be located, and the records interpreted by hydrologists.	Yes	Information is available for existing wells. A reservation-wide analysis would require individual well records to be evaluated in conjunction with geology by hydrologists. Well records are in the office of the Indian Health Service and Department of Ecology. It is not known how complete the records are.
F. WATER (Surface)									
1. Location or Base Map	Map	Site	X			Aerial photography. USGS and DNR topographic mapping.	May be identified from topographic base maps or aerial photographs.	Yes	
2. Watershed Boundaries	Map	Regional and Site		X		Aerial photography. USGS and DNR topographic mapping.	May be identified from topographic maps or aerial photographs.	Yes	
3. Quality/ Quantity	Chart	Regional and Site			X	None	Field survey.	No	Will require special studies to obtain necessary hydrological and chemical data. May be provided by Corps of Engineers in study to be completed in 1981.
G. GEOLOGIC FEATURES									
1. Coastal and Upland Features	Map	Site		X		Aerial photographs.	May be identified from aerial photography and verified by site inspection.	Yes	Will require verification by persons knowledgeable of geologic features. May desire coastal geologists to do shoreline work.
H. CLIMATE									
1. Precipitation	Map	Regional and Site		X			Local conditions implied from regional maps. May be verified by Coast Guard data.	Yes	Not completely accurate, but accuracy is not essential for this feature.
2. Wind Direction and Velocity	Map	Regional and Site		X			Local conditions implied from regional maps. May be verified by Coast Guard data.	Yes	Not completely accurate, but accuracy is not essential for this feature.

Data Need			Availability			Assessment		
Data Element	Form	Scale	YES	YES w/interpretation	NO	Source	Method of Interpretation/Analysis	can be produced	Comments
I. NATURAL RESOURCES									
3. Precipitation, temperature, weather items, etc.	Chart	Regional	X				Local conditions implied from regional data supplied in various reports.	Yes	Not completely accurate, but accuracy is not critical.
I. WILDLIFE									
1. Habitats and Corridors	Map	Regional	X			Aerial photographs. LANDSAT data. Washington Environmental Atlas. Corps of Engineers Environmental Assessments.	Washington Environmental Atlas supplies regional data on habitat which is usable. For on-site analysis, information can be implied from vegetation and climate or field surveyed.	Yes	Can be provided at regional scale from available data. Studies of on-site vegetation and/or field survey required to map accurately. Persons knowledgeable of reservation wildlife should also be interviewed.
		Site			X				
J. AESTHETICS									
1. Views and Vistas	Map	Site			X	None	Field survey.	Yes	Field survey can be performed easily by non-technical personnel. This can be supplemented by interview with tribal members.
II. NATURAL HAZARDS AND LIMITATIONS									
A. SOILS									
1. Soil-septic tank limitation	Map	Site			X	None	Interpretation from soil survey data.	No	1938 Soil Survey is too general and inaccurate. New survey should be performed at site scale.
2. Soil - Shrink Swell	Map	Site			X	None	Same as above	No	Same as above
3. Soil - Bearing Strength	Map	Site			X	None	Same as above	No	Same as above
4. Soil - Landfill Areas	Map	Site		X		Historical aerial photographs. Miscellaneous reports.	Analysis of historical aerial photographs shows where fill has been placed. Detailed soil survey will identify fill areas reservation-wide.	Yes	Detailed soil survey needed to do thorough job. Historical records and miscellaneous reports can be used to map known fill areas. Interview with tribal members also would supplement data.
5. Soil - Erosion Potential	Map	Site			X	None	Interpretation from soil survey data and accurate topographic maps, and aerial photographs. Can be verified by on-site inspection.	No	New soil survey and detailed (5 ft.) contour maps are needed.

Data Need			Availability			Assessment		
Data Element	Form	Scale	YES	w/Interpretation	NO	Source	Method of Interpretation/Analysis	can be produced	Comments
II. NATURAL HAZARDS AND LIMITATIONS									
B. GEOLOGY									
1. Slope limitation	Map	Site			X	None	Slope analysis is performed from calculations off of a topographic map.	Yes	Must await completion of suitable base map. Prefer contour interval of 5 ft.
2. Earthquake Potential	Map	Site			X	None	Regional description will identify earth tremor hazard. Analysis of soil survey and geologic map will indicate if land (soil) can withstand shaking.	No	Needs updated soil survey and requires interview with responsible officials to determine earthquake hazard.
		Regional			X	None			
3. Landslide Potential	Map	Site			X	None	Soil type, underlying geology and slope are conditions that must be evaluated. These can be interpreted from other sources. Past landslides can be identified from geologic maps and miscellaneous reports.	No	Needs data from detailed soil survey, base map, and geological report.
C. HYDROLOGICAL CONDITIONS									
1. Floodplain Delineation	Map	Site			X	None	Three methods are possible: a. Interpretation from soils. b. Engineering calculations based upon flow. c. Interview with tribal members.	No	The only method which is feasible without additional study is interview with tribal members. This will not take the place (legally) of an accurate study, but is better than no data on this element. Another possibility is to have HUD extend its study of the Quileute River Floodplain to cover the reservation.
2. Surface Flooding (ponding)	Map	Site			X	None	Can be interpreted from soil survey and/or aerial photographs taken during "wet" season. Must be field checked.	Yes	Most desirable method of delineation is from interpretation of detailed soil survey. Interview with tribal members is sensible.
3. Wave Activity/ Damage	Map	Site			X	Corps of Engineers has data for part of coastal area.	Field survey and interview would supplement brief descriptions in Corps of Engineers documents.	Yes	Most desirable method would be to have field survey completed by coastal geologist. Interview with Corps of Engineers and local residents could supplement.
D. CLIMATE									
1. Storm Wind Hazard	Map	Site			X	None	Interview with responsible officials and local residents.	No	Needs information from specialists.

Data Need: Data Element	Form	Scale	Availability: YES	Availability: w/Interpretation	Availability: NO	Source	Assessment: Method of Interpretation/Analysis	Assessment: can be produced	Comments
III. SENSITIVE/UNIQUE AREAS									
A. WILDLIFE HABITATS									
1. Wildlife Habitats (Terrestrial)	Map	Regional	X			Corps of Engineers has data on regional habitats in Environmental Atlas and listing of species in Impact Assessments. Other sources are aerial photographs.	Transcription from regional data. Habitats can be interpreted from vegetation or soils.	Yes	Requires interpretation of vegetation data and scaling regional data to site.
		Site		X					
2. Wildlife Habitats (Aquatic)	Map	Regional	X			Corps of Engineers has data on regional habitats in Environmental Atlas and listing of species in Impact Assessments.	Transcription from regional data.	Yes	Data is not available for site specific analysis. Needs inventory of coastal aquatic habitats. May be provided by Corps of Engineers study to be completed by 1981.
		Site			X	Species are identified, but habitats are not mapped spatially.	Field survey.	No	
B. VALUED OR ENDANGERED SPECIES	Map	Site			X	Eagle nesting and shore mammals have been assessed but the level of detail is not sufficient. No other valued species have had on-site survey.	Field study. Interview with specialists.	No	Level of detail of studies that are available are not sufficient. Should have on-site survey by specialists. May interview tribal members in lieu of survey by specialists.
C. GEOLOGIC FEATURES									
1. Regionally Significant Geologic Features	Map	Site		X		Aerial photographs. Corps of Engineers studies.	Interpretation of aerial photographs and field survey. Land forms can be picked out by observation.	No	A thorough survey will require assessment by coastal geologist.
D. CULTURALLY UNIQUE AREAS									
1. Archeological and Historical Sites	Map	Site	X			University of Washington Archeological Studies and Tribal Resources	Interview with U.W. personnel and tribal members. Data from archeological study must be transferred to suitable base map.	Yes	Tribal members should identify historical sites of significance.

SUMMARY OF FINDINGS

Basemap Development

At present, no suitable basemap exists which would permit mapping of bio-physical information at a scale and a degree of accuracy appropriate for land use planning on the Quileute Reservation. Several options for basemap development have been outlined in detail in the text. We recommend the development of a basemap. For all practical purposes, at a scale of 1:2,400 (1" equals 100 ft.) be used to provide an appropriate level of analysis for all information which needs to be mapped. Due to the relatively small land area of the Quileute Reservation, successful development of an information base for tribal land use planning necessitates a certain degree of precision. A fairly fine-grained analysis of bio-physical information will be necessary eventually to deal with the more specific problems which will follow further reservation improvements. Even though much of the information needed for a workable environmental suitability profile does not presently exist, the capacity to analyze such information is an important constraint to overcome. An accurate basemap is the initial step towards this end. However, this basemap feature will require additional cost to produce. Therefore a decision must be made. Should this additional expenditure be incurred now or in the future? Option I appears suitable to meet the consultants' basic needs for completing Phase II of this project. Option I, the least costly of the options discussed, satisfies the short-term need. But if long term needs are to be met we feel Option III would be the most cost-effective. Continuing discussions have taken place with Mr. Ken Clark of Clark and Associates regarding the Quileute Tribe's present efforts to develop a basemap as part of a land use planning program. Mr. Clark has done previous mapping of the bush area while employed for VTN Associates. Presently Mr. Clark has offered his assistance to organize and integrate the necessary materials to develop a high quality basemap, if costs of the materials required will be covered by the Quileute Tribe. We recommend that the details of such an arrangement with Mr. Clark be further considered.

Information Assessment

The information inventory can be considered comprehensive, although additional time and resources would no doubt permit additional relevant information to be indexed. Most existing information (mapped, unmapped or unmappable, mappable) which covers reservation lands is quite limited in its usefulness as a resource for planning in its present form. The reasons for this vary with the different documents and different information sources. Generally, the information was developed to serve a specific purpose and was either too site specific, ignoring critical aspects for reservation-wide planning, or it was much too general, discussing the entire reservation and the surrounding region in only general terms, without any mappable data available. The reason suspected for this general lack of mappable information is not oversight. Rather, it appears that a general information vacuum exists. The reasons for this vacuum are no doubt quite familiar to the Quileute Reservation planning staff. To mention just the most obvious should be sufficient here.

Scale of Information - The surveys, studies and plans which provide information on soils, geology, wildlife, forestry, and watershed management, etc., for the lands surrounding the reservation have been regional in scope for the most part, encompassing much larger areas and therefore lacking the detail needed for planning at the scale now proposed for the reservation (best described here as site specific).

Exclusion of Lands on the Reservation Due to Federal Jurisdictional Status - Reservation lands have not been examined in regional surveys that would provide planning related information. And of course as indicated above, even had they been included the detail now needed would still not have been provided. More recent surveys which would provide planning information are being conducted and others are possible in the future. It may be valuable for the planning staff to examine possible effects to coordinate between agencies undertaking these surveys. The value of these studies for tribal planning can be assessed in the future by referring to the appropriate areas of this document which indicate the most desirable scale of accuracy for the various forms of information needed.

Critical Data Gaps Identified

The list which follows identifies the 14 critical areas in which information must be made available if an environmental land use suitability profile is to be developed for reservation lands.

N 1) tribal fishing sites
N 2) prime agricultural soils
N 3) location of rivers and streams
G 4) coastal, upland & streambed features
S 5) septic tank limitations
S 6) soil bearing capacity
S 7) land fill sites identified
G 8) land slide potential
G 9) earthquake/liquification potential
G10) slope limitations
S11) floodplain identification
G12) sites of wave activity and potential damage
N13) archeological sites
N14) critical wildlife habitat

N - information for these data elements can be developed without additional specialized environmental studies. Either the information which exists presently can be mapped, or it can be developed by the Quileute Planning Staff.

S - these data elements can be interpreted and mapped once a detailed soils survey is carried out for all reservation lands.

G - these data elements can be interpreted and mapped once a comprehensive geologic survey is carried for both coastal and upland areas of the reservation.

The letters N, S and G indicate the manner in which information for this data element can be filled.

Existing Alternatives for Filling Critical Data Gaps

A Soil Survey: our recommendations include the following -

a) The tribe should contact the District Office of the Soil Conservation Service in Port Angeles and request that the SCS consider including the Quileute Reservation in their ongoing county-wide soil survey. This survey will not provide soil informations at the necessary level of detail for reservation purposes, but it will be useful as background information to check the accuracy of any future soil survey done specifically for the reservation.

b) The tribe should contact the Land Management Division of the BIA, in Portland, Oregon, and investigate the possibility of having them undertake a detailed soil survey of all reservation lands. Costs of such services and the time required to obtain them should be noted.

c) As an alternative to the BIA undertaking the soil survey, the tribe may wish to consider a proposal made by Mr. Louis Halloin, of the DNR Office, Port Angeles. Mr. Hallcin's proposal is made as a private party, experienced with soils information in Clallam County. Depending upon the BIA's ability to provide this service, and considering any attributed costs to the tribe, Mr. Halloin's proposal offers a reasonable alternative and offers the added benefit of close working relations with those involved in reservation planning to make certain the information developed is compatible with reservation needs. Mr. Halloin's proposal is included as an appendix to this report. Estimated costs are identified.

A Geologic Survey: our recommendations include the following -

Two separate surveys will be required; one for the uplands and one for the coastal area.

An upland geologic survey: unpublished information identifying the geology of the reservation's region has been developed by Mr. Weldon W. Rau of the Division of Geology and Earth Resources, Washington Department of Natural Resources. This information can be obtained and studied, with Mr. Rau's consultation provided. A follow-up field verification of this information by a competent field geologist will be required. The estimated cost for this is not known at this time.

A Coastal Geologic Survey: this survey can be undertaken as a part of the reservation's coastal zone management plan. A geologist has been contacted who is experienced in coastal geologic feature identification and shoreline processes. With the amount of information already developed by the Corps of Engineers on the physical shoreline processes in the area, we believe that a survey can be completed without undertaking extensive additional research. However, no estimate of costs have been identified at this time.

PHASE II: A PROPOSAL

The work schedule for the remainder of the summer should emphasize the development of information to fill the critical data gaps identified during this assessment. From mid July until September 30, 1978, we propose the following -

1) For those data gaps that can be filled without additional specialized environmental studies, the consultants will analyze and interpret the available information so that a map may be made at a scale and degree of accuracy that is compatible with the basemap used. The information to be mapped will include all those data elements marked "N" earlier in the recommendations section. They are:

1) tribal fishing sites*
2) prime agricultural soils
3) location of rivers* and streams
4) archeological sites
5) critical wildlife habitats*
6) critical wildlife habitats*

* - assistance in development of needed information by conducting community surveys will be provided by Quileute Planning Staff.

2) Efforts to develop a basemap will be continued with a satisfactory basemap expected in the near future. The goal will be to have a working basemap completed by September 30, provided adequate funds are available.

3) The consultants will coordinate with Quileute Planning Staff in their efforts to fill needed information gaps. If the tribe authorizes soil and geologic surveys to be undertaken during the summer, the consultants will be available to work with the parties involved to assure the information developed is compatible with reservation land use planning needs. Such authorization would have to take place in the very near future.

Conditions for contract renewal -

a) Clarification will be reached between the consultants and the Quileute Planning Staff as to the differences between an environmental atlas and an environmental land use suitability profile, and the goals of the consultants' work for the tribe clarified to both parties' satisfaction.

b) In the future, costs incurred by the consultants for all calls made on behalf of the tribe will be at the expense of the tribe. The costs due to telephone calls during Phase I of this project is estimated at $225, (better than 10% of the contract's total value!). It is agreed that future costs for calls will not exceed this amount.

REFERENCE	I. NATURAL RESOURCES										II. HAZARDS & LIMITATIONS				III. SENSITIVE AREAS			
	fisheries	soils	forestry	minerals	water:ground	water:surface	geologic	climate	wildlife	aesthetics	soils	geology	hydrology	climatic	wildlife	geologic	habitats endangered	culturally unique
1. Black, Engineering Report on LaPush Housing Site, 1978.		x																
2. Carefoot, Thomas. Pacific Seashores: A Guide to Intertidal Ecology. University of Washington Press, Seattle, 1977.																		
3. CH_2 M-Hill, "Contract Documents for Construction of Sewage Collection, Treatment and Disposal Facilities for Quileute Indian Tribe," CH_2 M-Hill, Bellevue, WA, 1975.		x																
4. CH_2 M-Hill, "A Sewage Facilities Plan for the Village of LaPush," CH_2 M-Hill, Bellevue, WA, 1975.																		
5. Clallam County Shoreline Management Advisory Committee, "Clallam County Shoreline Master Program," Clallam County, Port Angeles, WA, 1976.																		
6. Dept. of Geography, WWU, "The Puget Sound Region: A Portfolio of Thematic Computer Maps," Center for Pacific Northwest Studies Occasional Paper #3, Bellingham, WA, 1974.																		

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	fisheries	soils	forestry	minerals	water:ground	water:surface	geologic	climate	wildlife	aesthetics	soils	geology	hydrology	climatic	wildlife	geologic	habitats endangered	culturally unique
7. Duncan, Mary Ann. "Archeological Investigation at the LaPush Village Site: An Interim Report." Office of Public Archeology, University of Washington, Seattle, 1977.														•				x
8. ENCON Environmental Consultants. "North Olympic Coastal Basin Water Quality Management Plan - Basin 13-11-09." ENCON, Vancouver, WA, 1975.						x												
9. Franklin, Dorothy. West Coast Disaster. Gann Publishing Co., San Francisco, CA, 1964.														x				
10. Grubb, Teryl G. "1975 Bald Eagle Activity and Nest Site Data for Western Washington." University of Washington, Seattle, 1975.																	x	
11. Johnson and Jeffries. Unpublished reports of Puget Sound Museum of Natural History, University of Puget Sound, Tacoma, 1977.									x									
12. Kirk, Ruth. The Olympic Seashore. Olympic Natural History Association, Port Angeles, 1962.																		

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13. Kratz, Andrew Michael. "Vegetational Analysis of the Coastal Picea sitchensis Forest Zone in Olympic National Park, Washington." Master's Thesis, WWU, June 1975.		x	x											•				
14. Latourell, John & Elaine D. "Coastal Zone Management Study of Indian Trust Lands in Western Washington," Department of Ecology, Olympia, WA, June, 1975.																		
15. Livingston, Vaughn E. "Geologic History and Rocks and Minerals of Washington," Washington State Department of Natural Resources, Division of Mines and Geology Information Circular 45, 1967.			x				x											
16. McKee, Bates. Cascadia. McGraw-Hill Book Co., NY, 1972.							x											
17. Moore, Wallace & Kennedy. "Makah Planning Study - Land Use and Housing Plan," Pacific Rim Planners, Inc., 1977.																		

REFERENCE	I. NATURAL RESOURCES										II. HAZARDS & LIMITATIONS				III. SENSITIVE AREAS			
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18. Pacific Northwest River Basins Commission. "Columbia - North Pacific Region Comprehensive Framework Study of Water and Related Lands" (Appendix I - XVI). Pacific Northwest River Basins Commission, Vancouver, WA, 1972.		x		x		x	x	x			x		x					
19. Parker, Jeff & Michael Rent. "Geologic Hazards in the Coastal Zone," Office of Land Programs, Department of Ecology, Olympia, WA, 1978.																		
20. Pauley, William N. & Pacific Consultants, Inc. "A Plan for Solution of Some Problems On, and Development of the Quileute Indian Reservation." LaPush, WA, March 1972.					x	x	x					x	x	x		x		
21. People Space Architecture, "Planning Document One - Quileute Tribe of Indians." People Space Architecture, Spokane, WA, 1973.		x						x			x							
22. People Space Architecture, "Planning Document Two - Quileute Tribe of Indians." People Space Architecture, Spokane, WA, 1973.													x					

REFERENCE	I. NATURAL RESOURCES										II. HAZARDS & LIMITATIONS				III. SENSITIVE AREAS			
	fisheries	soils	forestry	minerals	water:ground	water:surface	geologic	climate	wildlife	aesthetics	soils	geology	hydrology	climatic	wildlife	geologic	habitats endangered	culturally unique
23. Pettitt, George A. "The Quileute of LaPush: 1775-1945." Anthropological Records Vol. 14:1, University of California Press, 1949.																		x
24. Phinney, Lloyd & Patrick Bucknell. "A Catalog of Washington Streams and Salmon Utilization - Vol. 2 Coastal Region." Washington State Department of Fisheries, Olympia, 1975.	x					x												
25. Rau, Weldon W. Geology of the Washington Coast Between Hoh River and Quileute River. Unpublished report and geologic map available from author.				x	x		x					x				x		
26. Rau, Weldon W. Geology of the Washington Coast Between Point Greenville and the Hoh River. Washington State Department of Natural Resources - Geology and Earth Resources Division Bulletin #66, Olympia, 1973.							x											
27. Reed, Larry E. "Bureau of Indian Affairs Forestry Study." Bendix Corp. Aerospace Division, Ann Arbor, Michigan, 1976.			x			x									x			

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	fisheries	soils	forestry	minerals	water:ground	water:surface	geologic	climate	wildlife	aesthetics	soils	geology	hydrology	climatic	wildlife	geologic	habitats endangered	culturally unique
28. Shapiro and Associates. "Manual for Management of the Coastal Aquatic Area." Shapiro and Associates for Department of Ecology, Seattle, 1977.																		
29. Tabor, Roland W. Guide to Geology of the Olympic National Park. University of Washington Press, Seattle, 1975.																		
30. Tabor and Cady. "Geologic Map of Olympic Peninsula, WA." USGS Misc. Investigations Series I-994, USGS, Washington, D.C., 1978.						x	x					x				x		
31. U.S. Army Corps of Engineers. National Shoreline Study: Inventory Report Columbia - North Pacific Region. U.S. Army Corps of Engineers, North Pacific Division, Portland, 1971.													x					
32. U.S. Army Corps of Engineers. "Environmental Assessment: Maintenance Dredging at Quillayute Navigation Channel at LaPush, WA." Corps of Engineers - Seattle District, 1978.																		

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33. U.S. Army Corps of Engineers and Institute for Environmental Studies, U.W. Washington Environmental Atlas. U.S. Government Printing Office, Washington, D.C., 1975.			x			x	x	x	x						x	x	x	x
34. U.S. Army Corps of Engineers. "Environmental Evaluation - Quillayute River Spit Restoration, LaPush, WA." U.S. Army Corps of Engineers - Seattle District Office, 1977.						x	x	x					x		x			
35. U.S. Army Corps of Engineers. "Environmental Evaluation for Restoration of Training Wall and Eroded Bank at Quillayute River Project - LaPush, WA." U.S. Army Corps of Engineers - Seattle District Office, 1975.																		
36. U.S. Army Corps of Engineers. "Exhibit 'A' to Assessment of 17 May 1978 - Quillayute River Spit Rehabilitation." U.S. Army Corps of Engineers - Seattle District, 1978.																		
37. U.S. Department of Agriculture. "Southwestern Washington River Basins - Type III Survey (Preliminary Field Draft)," 1974.																		

REFERENCE	I. NATURAL RESOURCES										II. HAZARDS & LIMITATIONS				III. SENSITIVE AREAS			
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38. USDA Soil Conservation Service. Soil Survey - Clallam County, Washington. U.S. Government Printing Office, Washington, D.C. Issued 1951 from 1938 survey.		x					x	x			x							
39. U.S. Department of Commerce, NOAA. "Nautical Chart, Approaches to Strait of Juan de Fuca Destruction Island to Amphitrite Point, NOAA, 1977.													x					
40. USDA Forest Service. "Final Environmental Impact Statement - Soleduck Planning Unit - Olympic National Forest." Forest Service (no date).		x									x							
41. U.S. Department of Housing and Urban Development. "Flood Plain Delineation Map - Quilayute River, Clallam County, WA." HUD, U.S. Government Printing Office, 1977.													x					
42. U.S. Department of the Interior - National Park Service. "Final Environmental Statement - Olympic National Park Proposed Wilderness." National Park Service, 1974.																		

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43. U.S. Department of the Interior - National Park Service. "Master Plan, Olympic National Park." National Park Service, 1976.																		
44. U.S. Department of the Interior - National Park Service. "Final Environmental Statement - Proposed Master Plan for the Olympic National Park." National Park Service, 1976.			x															
45. U.S. Department of the Interior - National Park Service. "Supplement to the Final Environmental Statement: Proposed Master Plan for Olympic National Park." National Park Service, 1977.																		
46. U.S. Geological Survey. "LaPush Quadrangle, Washington." U.S. Topographic Map Series, U.S. Government Printing Office, 1935.																		
47. Washington State Department of Natural Resources. "Township Orthophoto Map (T 28W R15W)." DNR, Olympia, 1977.							x											

REFERENCE	I. NATURAL RESOURCES										II. HAZARDS & LIMITATIONS				III. SENSITIVE AREAS			
	fisheries	soils	forestry	minerals	water:ground	water:surface	geologic	climate	wildlife	aesthetics	soils	geology	hydrology	climatic	wildlife	geologic	habitats endangered	culturally unique
48. State of Washington - Department of Natural Resources. Washington Marine Atlas - North Coast Waters. DNR, Olympia, 1974.						x	x	x						x				
49. Washington State Department of Highways. "General Highway Map - Clallam County." Washington State Department of Highways, 1969.																		

APPENDIX "A"

Mr. Louis Halloin: Soil Survey Proposal

Louis Halloin
118 Motor Ave.
Port Angeles, Wash. 98362
June 21, 1978

Mr. Bob Brandow
South Side Community Consultants
706 E. Chestnut
Bellingham, Washington 98225

Dear Mr. Brandow:

Enclosed is an outline describing a soil survey of the Quileute Indian Reservation that I would develop for approximately $.75 per acre. This soil survey would be made based on the national standards of the Soil Conservation Service.

For the stated fee, I will furnish my own transportation, field equipment, and living costs. All base maps will be supplied by other sources at no cost to myself. Upon completion of the survey I will submit a soil map at a scale adequate for planning purposes and a type-written report based on the enclosed outline. If desired, I will instruct a representative of the Quileute Indians in the fundamentals of soil science and interpretations to promote the use and understanding of the survey.

Enclosed is a technical soil description, a mapping unit description, and interpretations for the soil Lapush silt loam. This is an example of the type of material that can be included in a soil survey report. The format of the report can be easily modified to fit the needs of the survey.

Attached is a brief description of my credentials. References will be furnished upon request.

Sincerely,

Louis Halloin

Louis Halloin
Soil Scientist

CREDENTIALS

Louis Halloin

Education: Bachelor of Science Degree--Soil Science
Michigan State University 1973

Master of Science Degree--Forest Soils and Hydrology
Michigan State University 1975

Relevant Experience: July 1, 1975 through October 30 1976.
Forest-Soil Specialist for the Washington Dept. of Natural Resources in Klickitat County. Participated in the soil survey of that county.

November 1, 1976 to present.
Soil Survey Project Leader for the Washington Dept. of Natural Resources responsible for organizing and completing the soil surveys of Clallam and Jefferson Counties.

Tentative Series
LJH
5/78

LAPUSH SERIES

The Lapush series consists of deep, well drained soils that formed in fine textured alluvium. These soils are on level to gently sloping river terraces and have slopes of 0 to 5 percent. The mean annual precipitation is about 105 inches and the mean annual air temperature is about 50°F.

Taxonomic Class: Medial, mesic Umbric Dystrochrepts

Typical Pedon: Lapush silt loam - forested. (Colors are for moist soil unless otherwise noted. All textures are apparent field textures.)

O1--1 inch to 0; needles, leaves, and twigs.

A1--0 to 6 inches; dark brown (10YR 3/3) silt loam, yellowish brown (10YR 5/4) dry; moderate fine and very fine subangular blocky structure parting to granular; slightly hard, friable, slightly sticky, plastic; weakly smeary; many fine and very fine roots; many fine and very fine tubular and many fine and very fine irregular pores; very strongly acid (pH 4.6); gradual smooth boundary. (5 to 8 inches thick)

B21--6 to 16 inches; dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; moderate fine and very fine subangular blocky structure; slightly hard, friable, slightly sticky, plastic; weakly smeary; many fine and very fine roots; many fine and very fine tubular and many fine and very fine irregular pores; very strongly acid (pH 4.8); gradual smooth boundary. (10 to 16 inches thick)

B22--16 to 28 inches; dark yellowish brown (10YR 4/4) silt loam, light yellowish brown (10YR 6/4) dry; moderate fine, very fine, and medium subangular blocky structure; slightly hard, friable, slightly sticky, plastic; weakly smeary; many fine and very fine roots; many fine and very fine tubular and many fine and very fine irregular pores; very strongly acid (pH 4.8); gradual smooth boundary. (12 to 24 inches thick)

B3--28 to 60 inches; olive brown (2.5Y 4/4) silt loam, light yellowish brown (2.5Y 6/4) dry; weak fine, very fine, and medium subangular blocky structure; slightly hard, friable, slightly sticky, plastic; weakly smeary; common fine and very fine roots; many fine and very fine tubular and common very fine irregular pores; very strongly acid (pH 4.8).

Type Location: Clallam County, Washington; 1000 feet east of the NW corner of section 23, T. 28 N., R. 14 W. Approximately 200 feet east of ITT Rayonier logging road and 400 feet north of the Bogachiel River.

Range in Characteristics: Depth of the soil is greater than 60 inches. Rock fragments in the control section range from 0 to 2 percent. The mean annual soil temperature is estimated to range from 51°F to 54°F.

The A horizon has value of 4 or 5 dry and chroma of 3 or 4 dry. Reaction is strongly and very strongly acid.

The B horizons have value of 3 or 4 moist, 5 or 6 dry and chroma of 3 or 4 moist. Texture is silt loam or very fine sandy loam. Structure is subangular blocky and angular blocky. Reaction is strongly and very strongly acid.

In some pedons, extremely gravelly sandy loam or extremely cobbly sandy loam is at depths between 40 and 60 inches.

Competing Series: There are no competing series at this time.

Geographic Setting: Lapush soils are on level to gently sloping river terraces at elevations of 50 to 600 feet. They formed in fine textured alluvium. The soils are in a mild marine climate and have cool, moist summers and cool, wet winters. Mean annual precipitation is 85 to 120 inches. Average January temperature is about 38°F, average July temperature is about 61°F, and the mean annual temperature is about 50°F. Frost-free season is 180 to 220 days.

Geographically Associated Soils: These are the Solduc and Quillayute soils. Solduc soils are skeletal and somewhat excessively drained. Quillayute soils are medial and have an umbric epipedon ~~20~~ 24 to ~~40~~ 35 inches thick. Both of these soils are on river terraces above the Lapush soils.

Drainage and Permeability: Well drained, medium runoff, moderate permeability.

Use and Vegetation: Timber production and wildlife are the principal uses. Small areas are used for farming and permanent pasture. Native vegetation is western hemlock, Sitka spruce, red alder. Understory species include red huckleberry, blue-leaved huckleberry, salal, devilsclub, salmonberry, elderberry, western swordfern, deer fern, ladyfern, and Oregon oxalis.

Distribution and extent: Western Clallam County, Washington. This series is inextensive.

Series Proposed: Clallam County, Washington 1978.

Source of Name: Small town in Clallam County.

Remarks:

MAPPING UNIT DESCRIPTION

122A. Lapush silt loam, 0 to 5 percent slopes

Classification: Medial, mesic Umbric Dystrochrepts

This is a level to gently sloping, well drained soil that formed in fine textured alluvium. This soil is on river terraces at elevations of 50 to 600 feet. The overstory vegetation is primarily western hemlock, Sitka spruce, and red alder. The understory includes red huckleberry, salal, devilsclub, salmonberry, western swordfern, deer fern, ladyfern, and Oregon oxalis. The annual precipitation is about 105 inches, the mean annual air temperature is about 50°F, and the frost-free season is 180 to 220 days.

Typically, beneath a mat of partially decomposed organic material, this soil has a dark brown silt loam surface layer approximately 6 inches thick. The subsoil is dark yellowish brown and olive brown silt loam approximately 54 inches thick.

Permeability is moderate and the available water capacity is very high. Surface runoff is medium and the erosion hazard is slight.

Lapush soils are used for timber production, farming, and wildlife.

This soil is suitable for growing western hemlock and red alder. Based on Wiley's 50-year table , mean site index for western hemlock is 116. Mean site index for red alder is 96.

The primary restriction for use and management of this soil for timber production is its low bearing capacity for heavy equipment.

Interpretations

Lapush silt loam

Septic Tank Absorption Fields: Moderate limitations. This soil percs slowly and its permeability may be impaired by the excessive use of heavy equipment when installing the filter field. This will damage the structure and porosity of the soil which in turn will restrict percolation.

Sewage Lagoons: Moderate limitations. This soil is subject to seepage because it is difficult to compact.

Sanitary Landfill (Trench): Moderate limitations. This soil is difficult to compact when used as a daily cover for a landfill.

Sanitary Landfill (Area): Slight limitations: Operation of heavy equipment may be hampered by the low bearing capacity of this soil.

Daily Cover for Landfill: Moderate limitations. This soil is difficult to compact when used as a daily cover for a landfill.

Shallow Excavations: Slight limitations.

Dwellings Without Basements: Slight limitations.

Dwellings With Basements: Slight limitations. Sands and gravelly sands are generally at depths greater than 5 feet in this soil.

Small Commercial Buildings: Slight limitations.

Local Roads and Streets: Severe limitations. This soil has a low bearing capacity.

Lawns and Landscaping: Slight limitations.

Roadfill: Poor. This soil has a low bearing capacity and is difficult to compact.

Source of Sand: Improbable source because this soil contains excess fine material.

Source of Gravel: Improbable source because this soil contains excess fine material.

Source of Topsoil: Good. There may be problems spreading this soil when the moisture content is high.

Pond Reservoir Area: Moderate limitations. This soil is subject to seepage.

Embankments, Dikes, and Levees: Moderate limitations. This soil is difficult to compact.

Excavated Ponds (Aquifer Fed): Severe limitations. The Water table is below 5 feet.

Camp Areas: Slight to moderate limitations depending on intensity of use.

Picnic Areas: Slight to moderate limitations depending on intensity of use.

Playgrounds: Slight to moderate limitations depending on intensity of use.

Paths and Trails: Slight to moderate depending on intensity of use.

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I. EXISTING MAPS OF RESERVATION

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Southside
Community
Consultants

Name KG

Date 6/1/78

DATA SURVEY FORM

I. Variable Name Color Aerial Photography

II. Source BIA Page

III. Contact Person/ Location of Data David Black
borrowed from BIA, Portland

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped (x) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1" = 250 ft. 1:3000

3. Contour interval:

4. Level of detail: very graphic - excellent detail
(minimum geographic area)

5. Agency that generated data: Jay Whiteford & Associates, Seattle

6. Date data produced: 4/29/72

7. Classifications of data:
   a. Number
   b. Listing

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

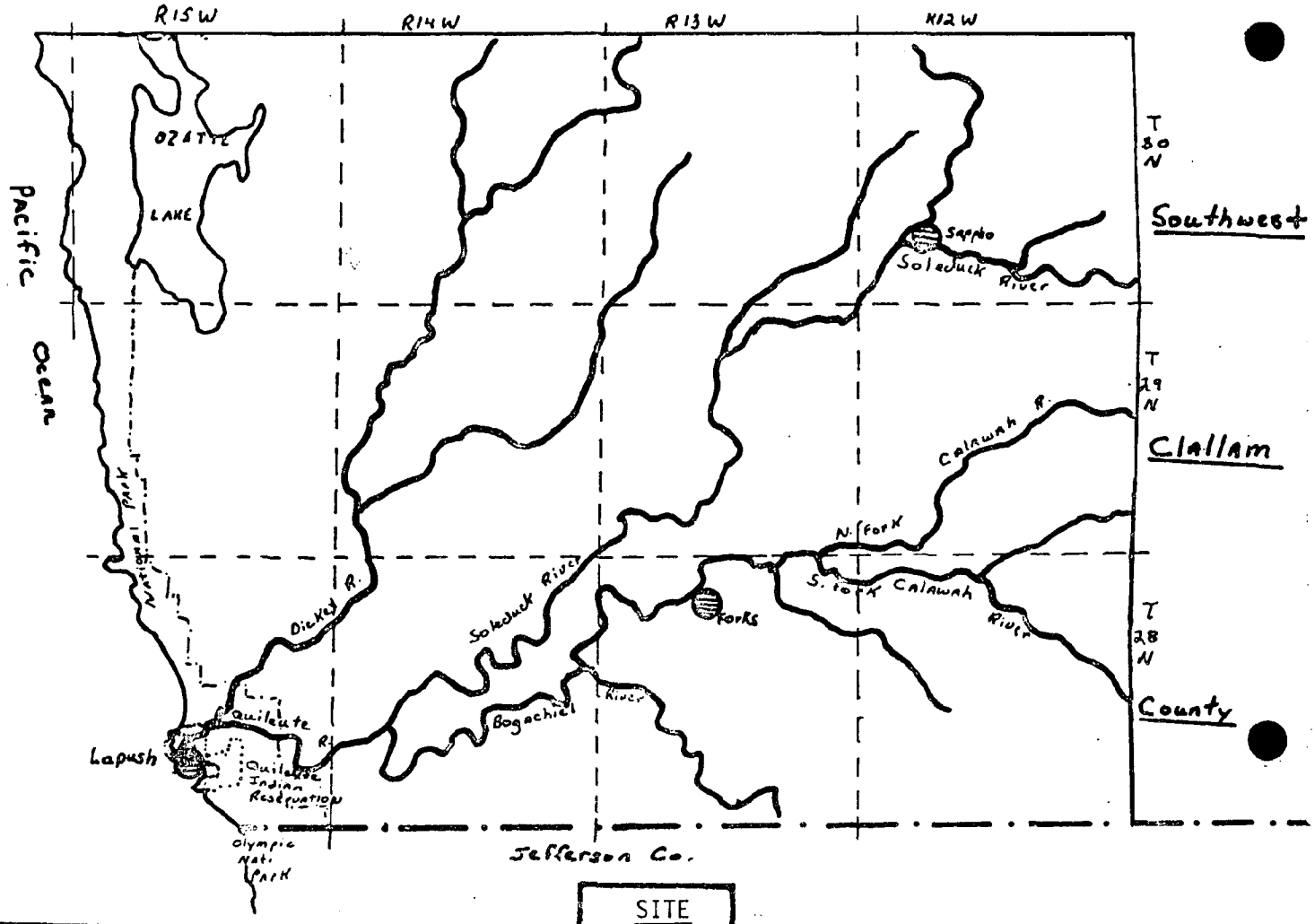
Limitations: (x) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost
(x) other doesn't cover whole reservation

Comments: Excellent scale to work from - very graphic.

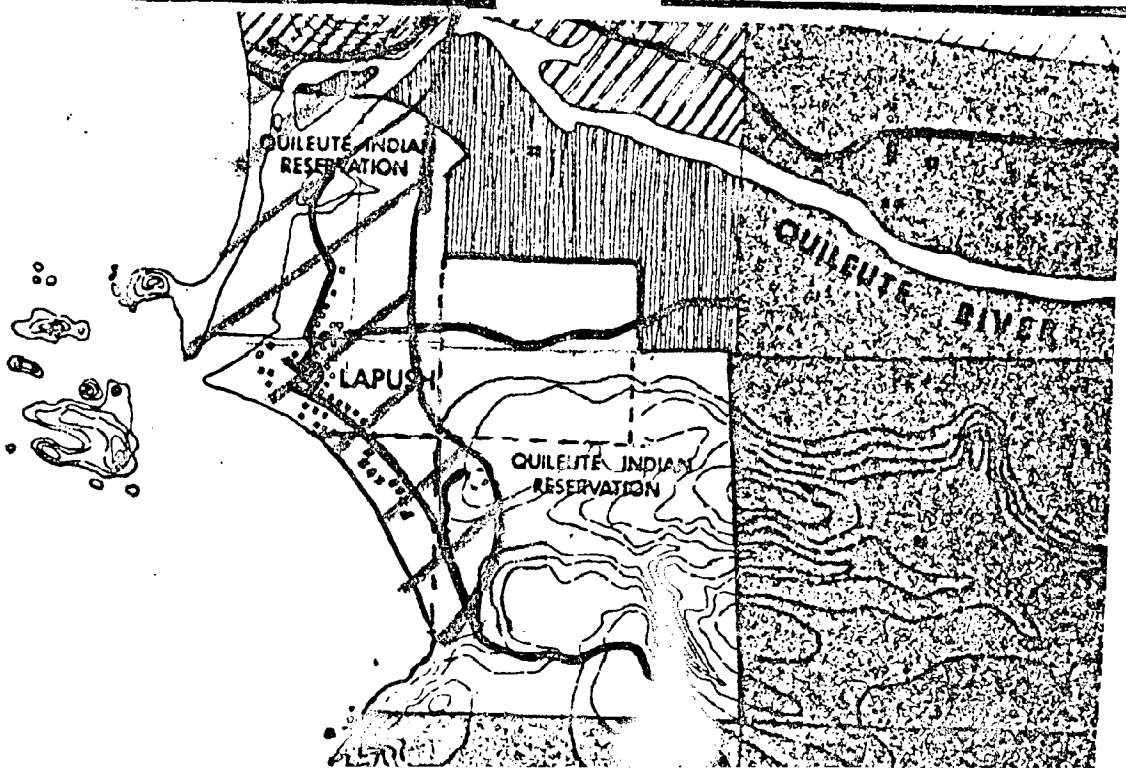
Can we get photo's for rest of reservation at this scale?

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 5/20/78

DATA SURVEY FORM

I. Variable Name Color Aerial Photography

II. Source BIA Page

III. Contact Person/
Location of Data BIA, Everett - on loan to tribe

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped (x) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1:12,000

3. Contour interval: none

4. Level of detail:
(minimum geographic area)

5. Agency that generated data: DNR

6. Date data produced: 5/30/75

7. Classifications of data:
   a. Number NA
   b. Listing NA

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

Suitability: (x) suitable ( ) suitable with modification ( ) not suitable

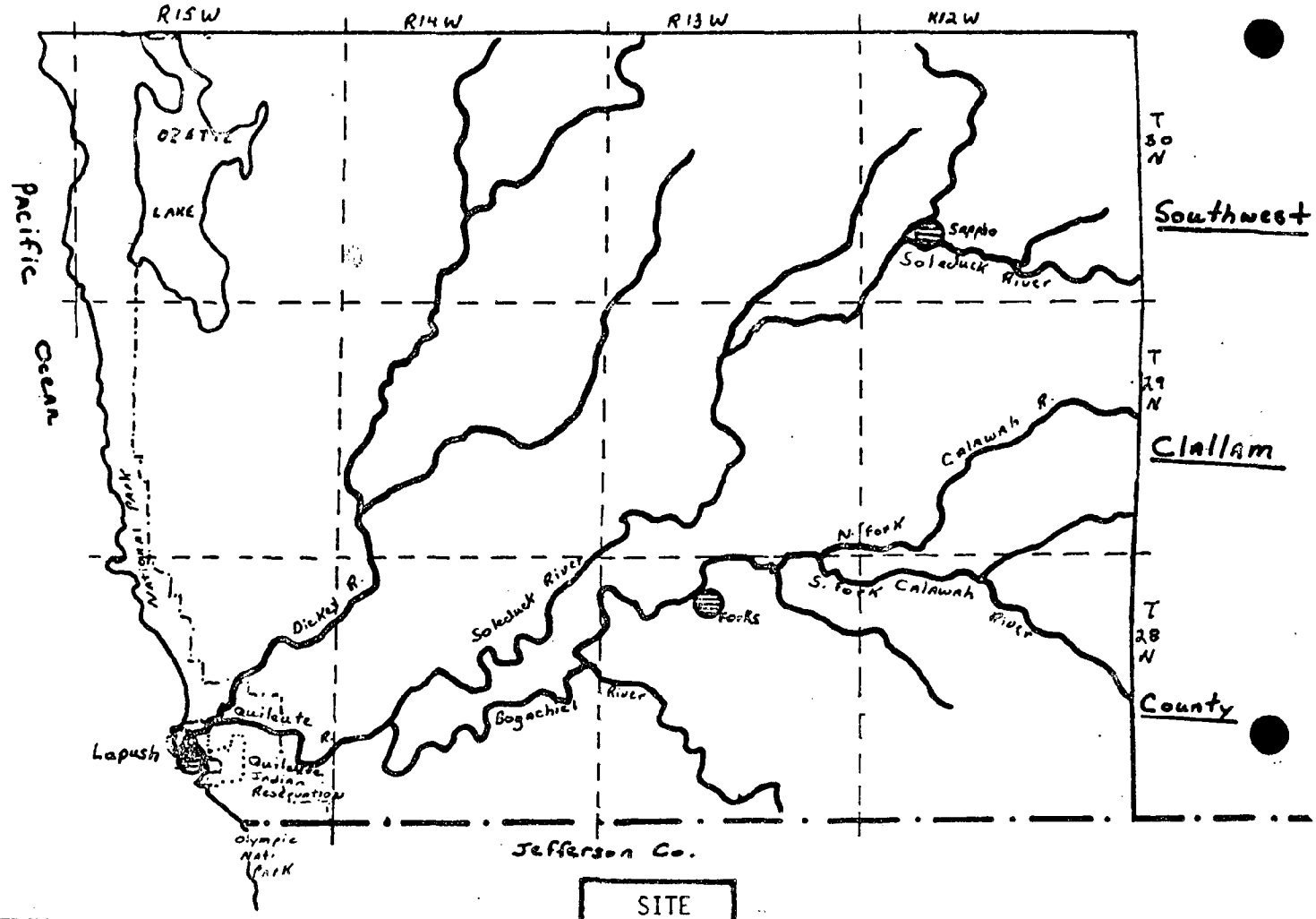
Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost
(x) other not interpreted

Comments:

Excellent for observing on-site conditions and if interpreted transferred to base map. Base map can be made from these photos.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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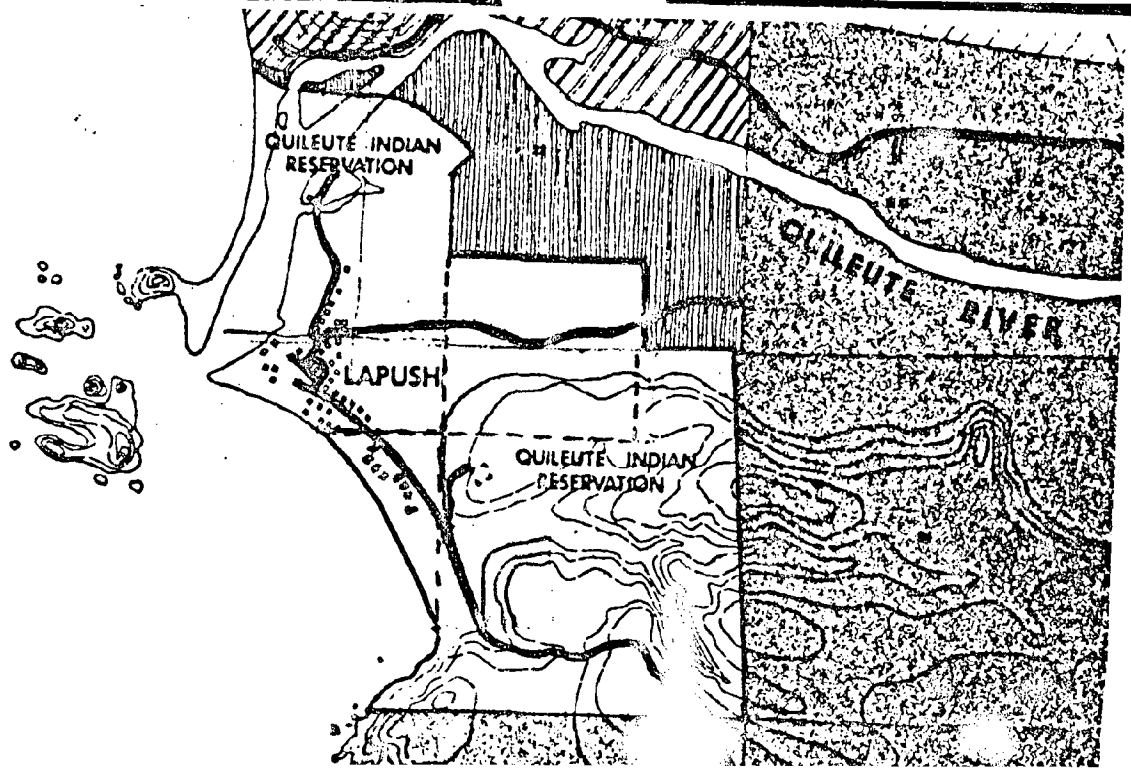


Southside
Community
Consultants

Name KG

Date 5/20/78

DATA SURVEY FORM

I. Variable Name Air Photography (B&W)

II. Source Corps of Engineers Page

III. Contact Person/
Location of Data provided by tribe

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped (x) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1:12,000 6000 AMT 152.92 mm

3. Contour interval:

4. Level of detail:
(minimum geographic area)

5. Agency that generated data: Corps of Engineers

6. Date data produced: 20 Dec. '77

7. Classifications of data:
   a. Number
   b. Listing

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

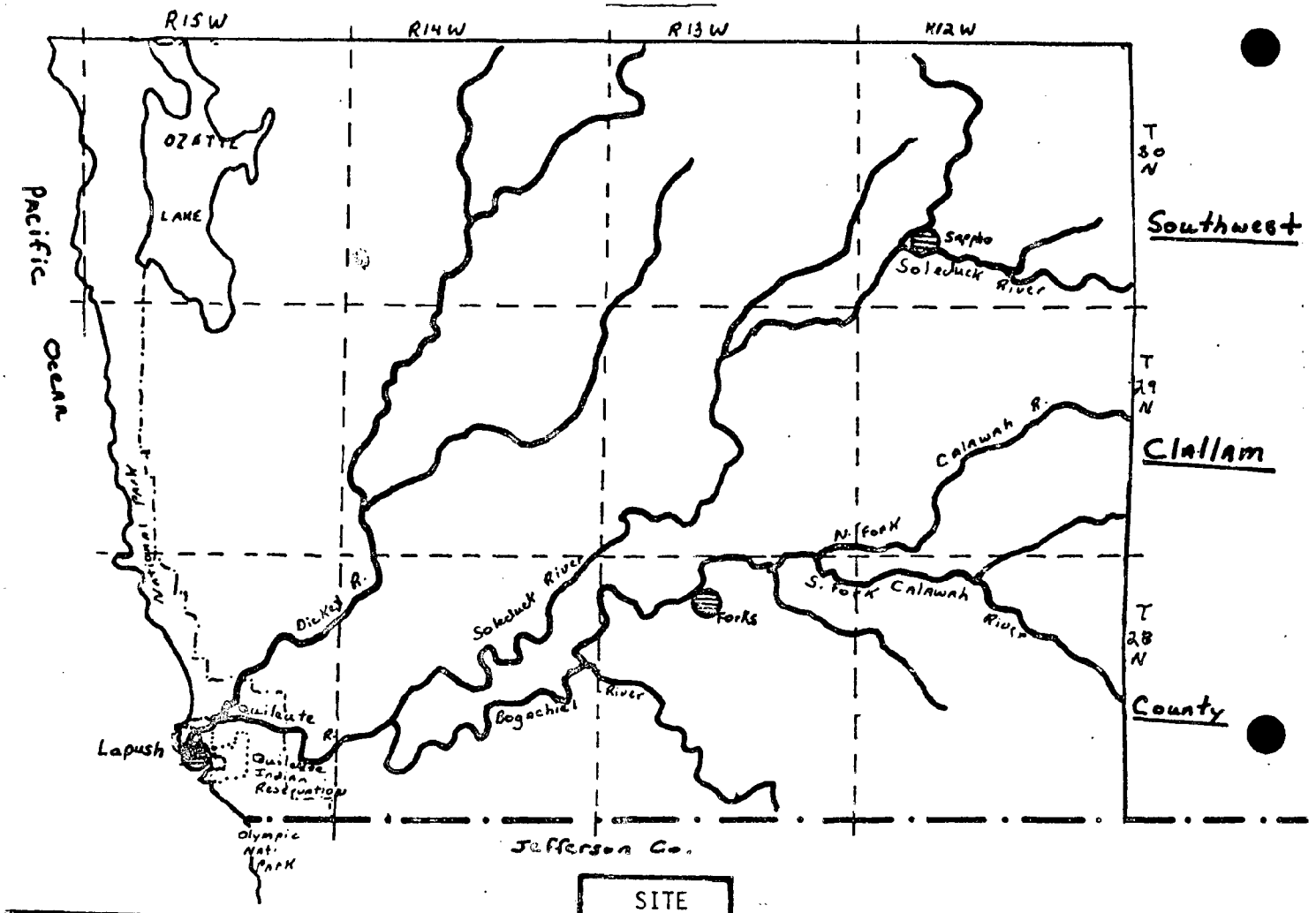
Limitations: ( ) outdated (x) scale ( ) accuracy ( ) availability ( ) cost
(x) other photographed with wrong lense for mapping

Comments: Excellent for observation of on-site features

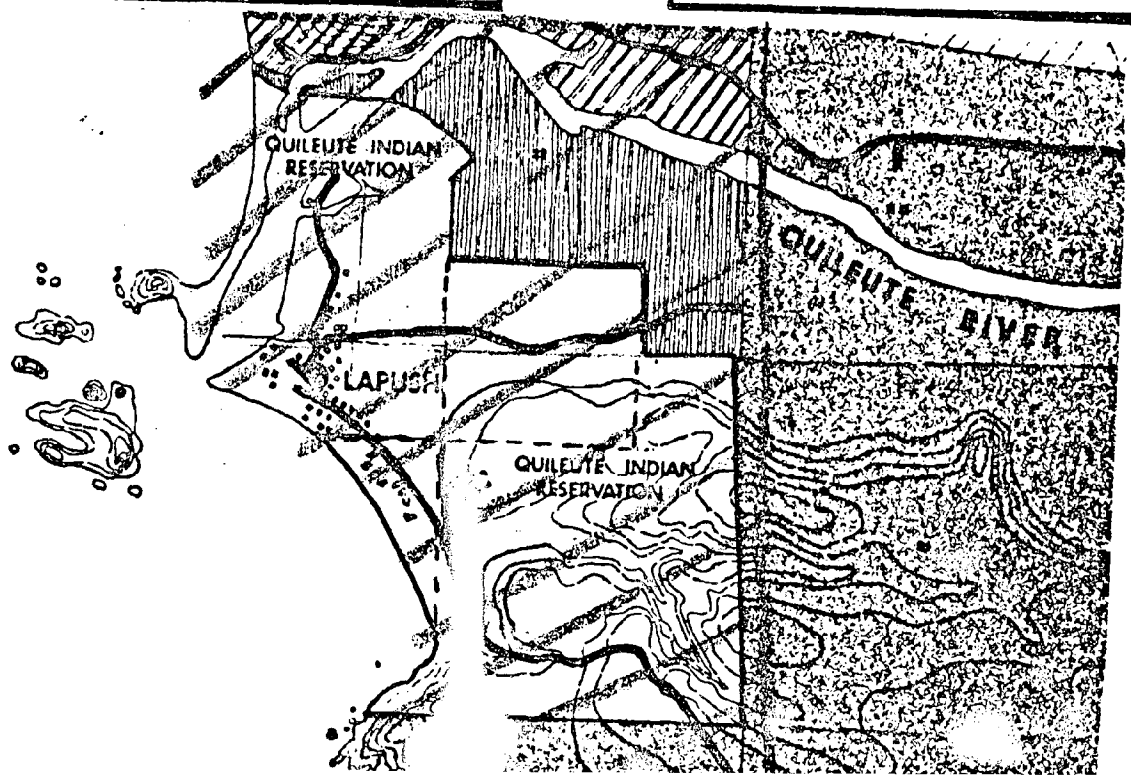
Data can be interpreted from photo.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name K. G.

Date 6-24-78

DATA SURVEY FORM

I. Variable Name Aerial Photography (B & W)

II. Source Corps of Engineers - Photogrammetry Office, Seattle Page

III. Contact Person/ Location of Data Corps of Engineers, Photogrammetry Office, Seattle

---

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped (X) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1'' = 2000' 6'' lens
3. Contour interval:
4. Level of detail: 2 photos give overlap series coverage for reservation (minimum geographic area)
5. Agency that generated data: Corps of Engineers
6. Date data produced: 1974 - 1978 yearly Most recent, 6 June 1978, S78044-1 #6, 7
7. Classifications of data:
   a. Number
   b. Listing
8. Is data available? (X) Yes ( ) No
9. Cost of data: about $15 for print, $40 for Blowup

EVALUATION

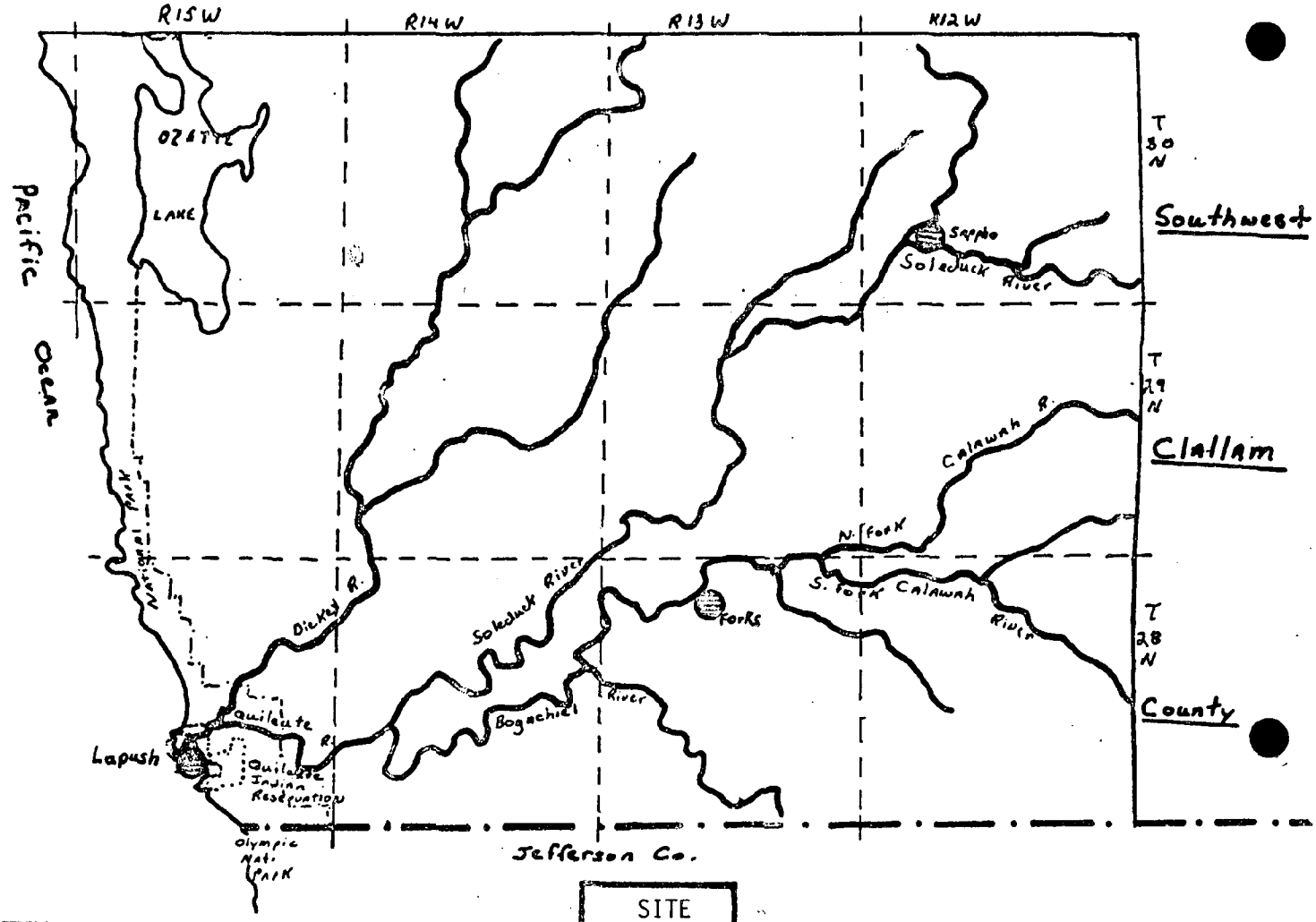
Suitability: (X) suitable ( ) suitable with modification ( ) not suitable

Limitations: ( ) outdated (X) scale ( ) accuracy ( ) availability ( ) cost ( ) other

Comments: Excellent photos but scale is small

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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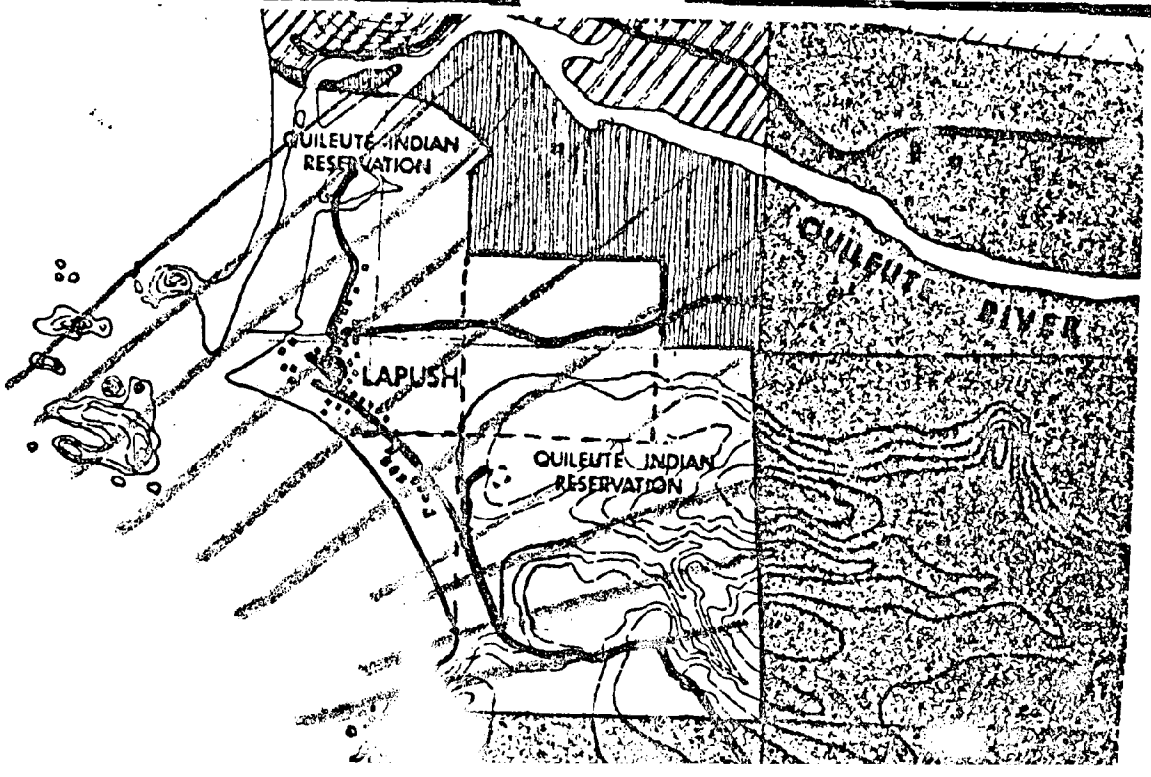


Southside
Community
Consultants

Name K. G.

Date 6-24-78

DATA SURVEY FORM

I. Variable Name Aerial Photography

II. Source Corps of Engineers - Photogrammetry Office Page

Seattle

III. Contact Person/ Location of Data Corps of Engineer - Photogrammetry Office, Seattle

---

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped (X) air photo ( ) text ( ) tabular ( ) digital
   ( ) other color
2. Scale of data: 1 = 500' 6 lens
3. Contour interval:
4. Level of detail: 8 photos needed for for whole reservation
   (minimum geographic area)
5. Agency that generated data: Corps of Engineers
6. Date data produced: 14 April 1978
7. Classifications of data:
   a. Number
   b. Listing
8. Is data available? (X) Yes ( ) No
9. Cost of data:

EVALUATION

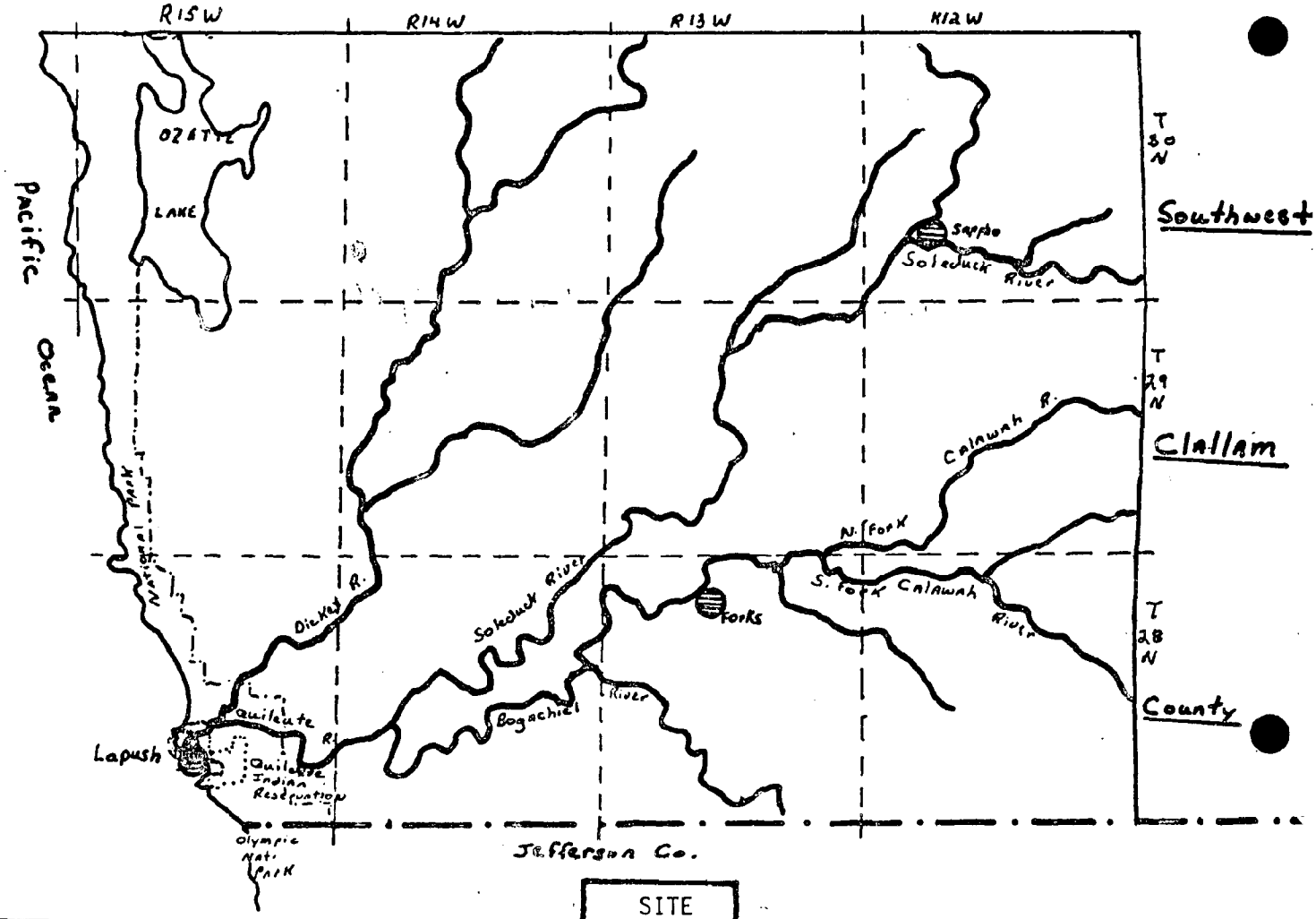
Suitability: ( ) suitable ( ) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost
( ) other

Comments: Excellent Photos for interpreting surface features, including vegetation.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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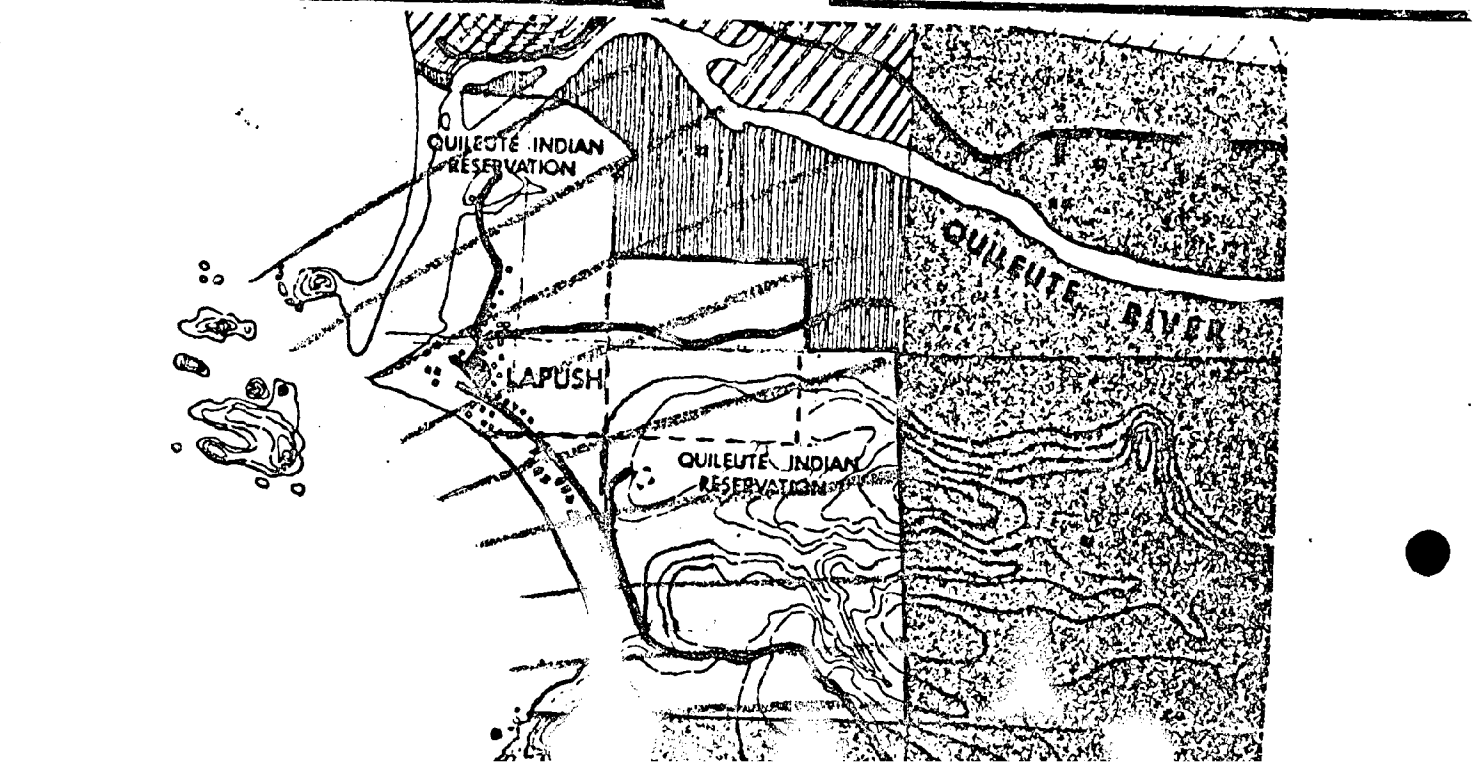


Southside
Community
Consultants

Name KG

Date 6/7/78

DATA SURVEY FORM

I. Variable Name Navigation (Nautical Chart)

II. Source U.S. Dept. of Commerce (NOAA) Page

Nautical Chart, 1977

III. Contact Person/
Location of Data

WWU Library (WESTERN WASHINGTON UNIVERSITY)

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1:10,000

3. Contour interval: 500'

4. Level of detail:
(minimum geographic area)

5. Agency that generated data: NOAA

6. Date data produced: 1927 Datum, 1977 map

7. Classifications of data:
   a. Number
   b. Listing Depth of water, land features, navigation aids

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

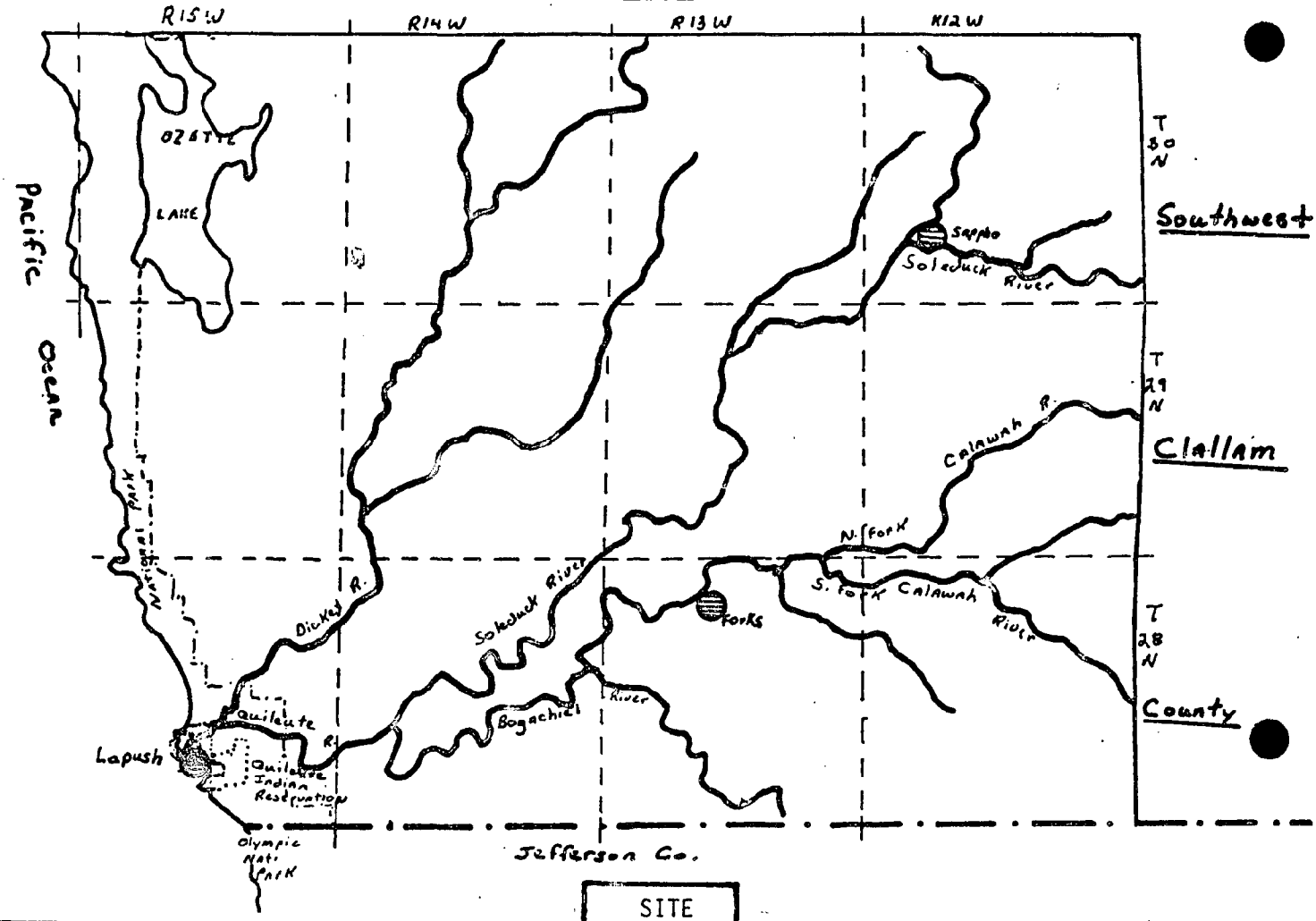
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: (x) outdated (x) scale ( ) accuracy ( ) availability ( ) cost
( ) other

Comments: Depth from mean lower low water - must be rectified for datum on base map - fathoms to feet etc.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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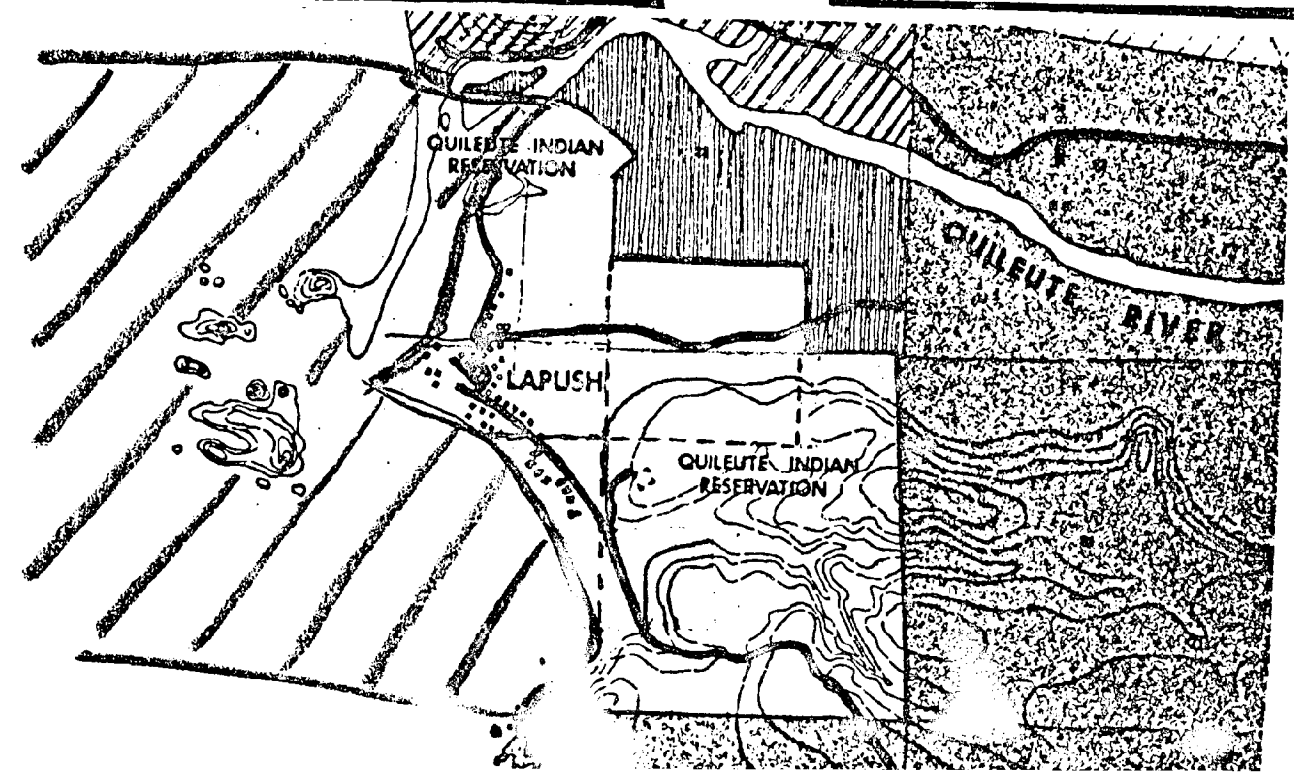


Southside
Community
Consultants

Name B. B. 7

Date 6-27-78

DATA SURVEY FORM

I. Variable Name Survey of Quillayute River and Harbor

II. Source Commissioner of Public Lands, State of Washington, Page _____
1936

III. Contact Person/ provided by tribe.
Location of Data

CHARACTERISTICS OF DATA

1. Source format: (X) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other _____

2. Scale of data: 1" = 200 ft.

3. Contour interval: NA

4. Level of detail: LaPush community and river estuary area
(minimum geographic area)

5. Agency that generated data: Dept. of Public Lands, State of Washington

6. Date data produced: 1936

7. Classifications of data:
   a. Number _____
   b. Listing government meander lines for river, co-ordinate system

8. Is data available? (X) Yes ( ) No

9. Cost of data: _____

EVALUATION

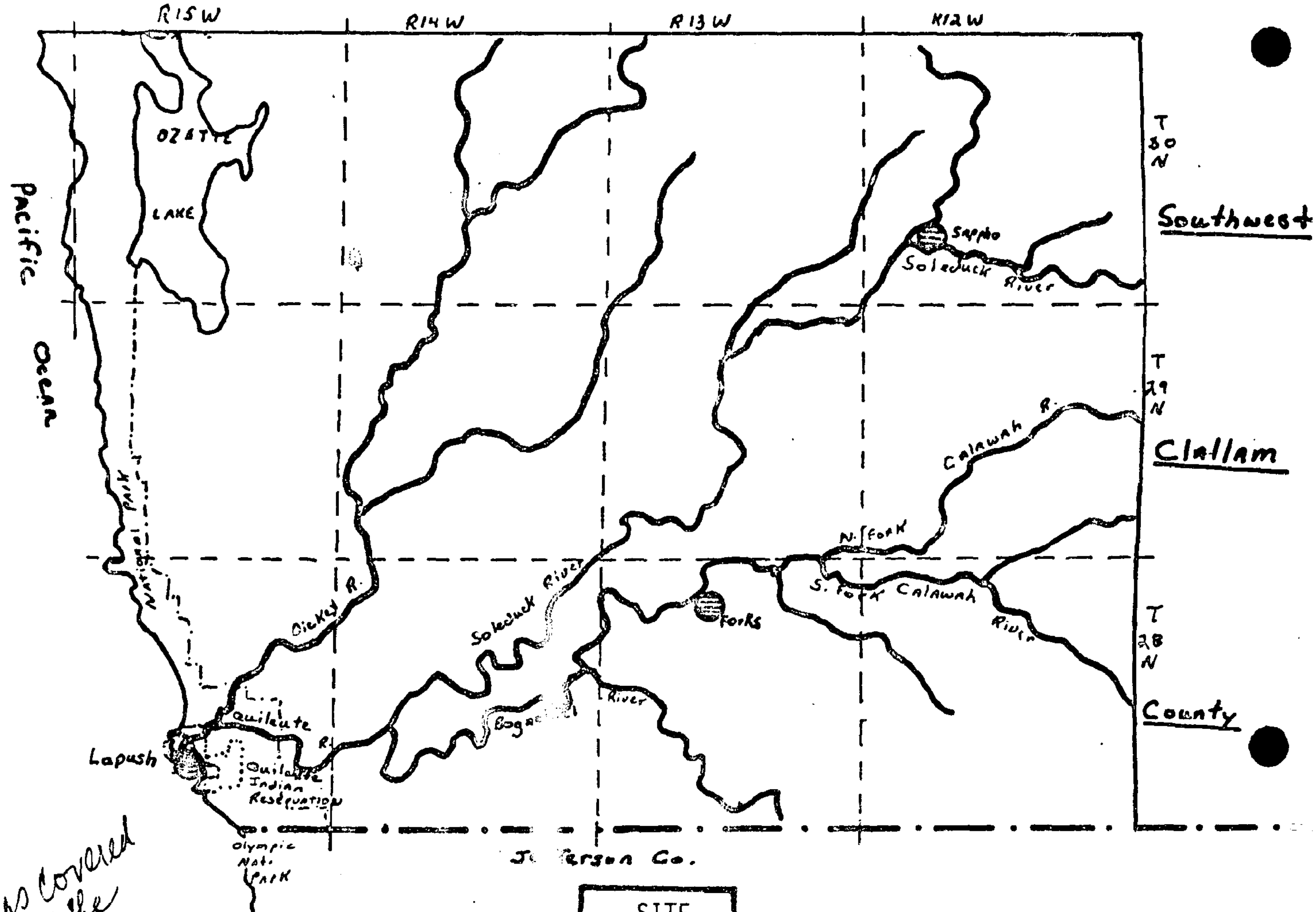
Suitability: (X) suitable ( ) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost
( ) other _____

Comments: data useful only as background information on river system formation at time.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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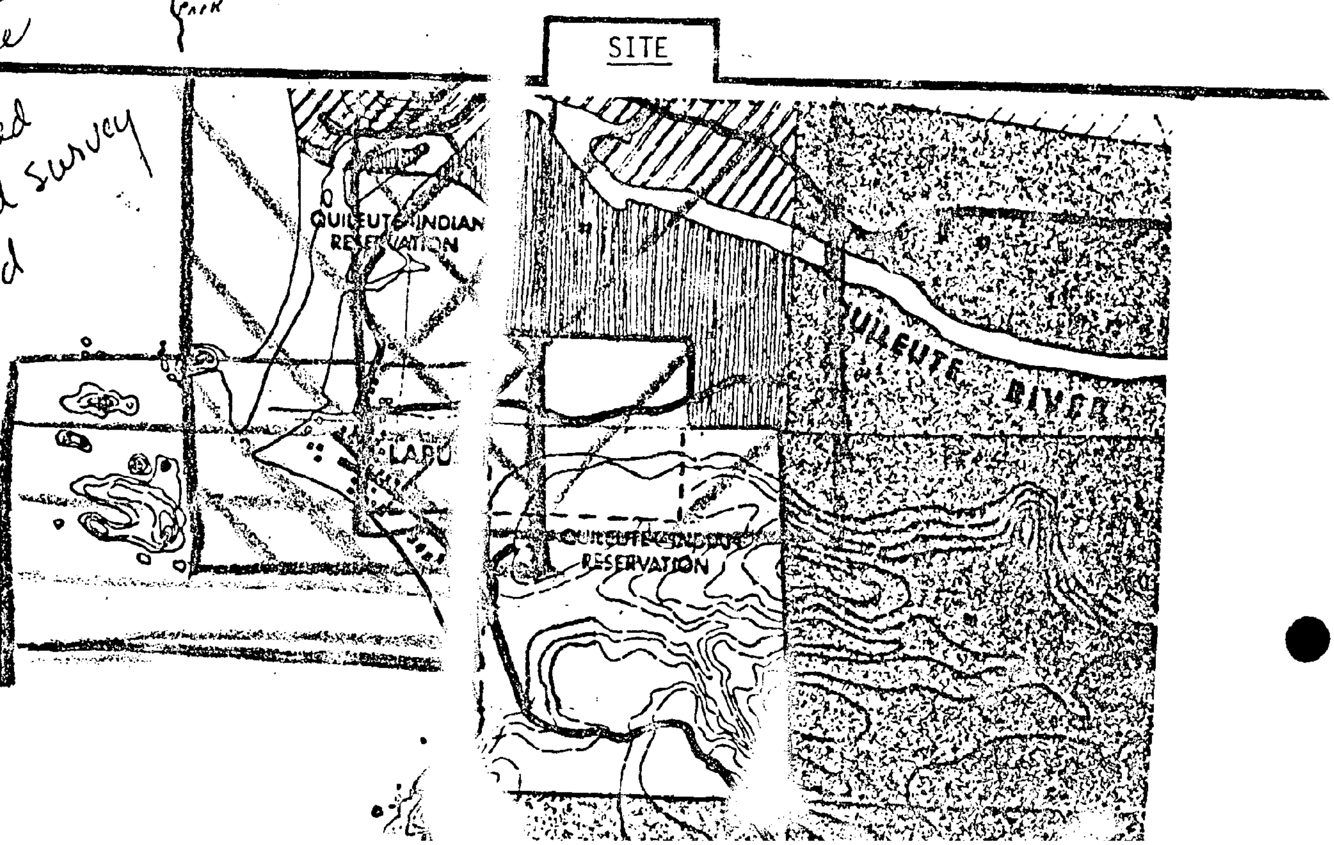


...as covered by our ...eets used ... record survey ...ndicated

Southside
Community
Consultants

Name BB

Date 6/17/78

DATA SURVEY FORM

I. Variable Name Original River Boundaries /1881

II. Source Pauley, A Plan for Quileute Tribe, 1972 Page p. A-62

III. Contact Person/ Location of Data available from tribe.

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 1 mile
3. Contour interval: NA
4. Level of detail: township sections (minimum geographic area)
5. Agency that generated data: ?
6. Date data produced: 1881
7. Classifications of data:
   a. Number NA
   b. Listing NA
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

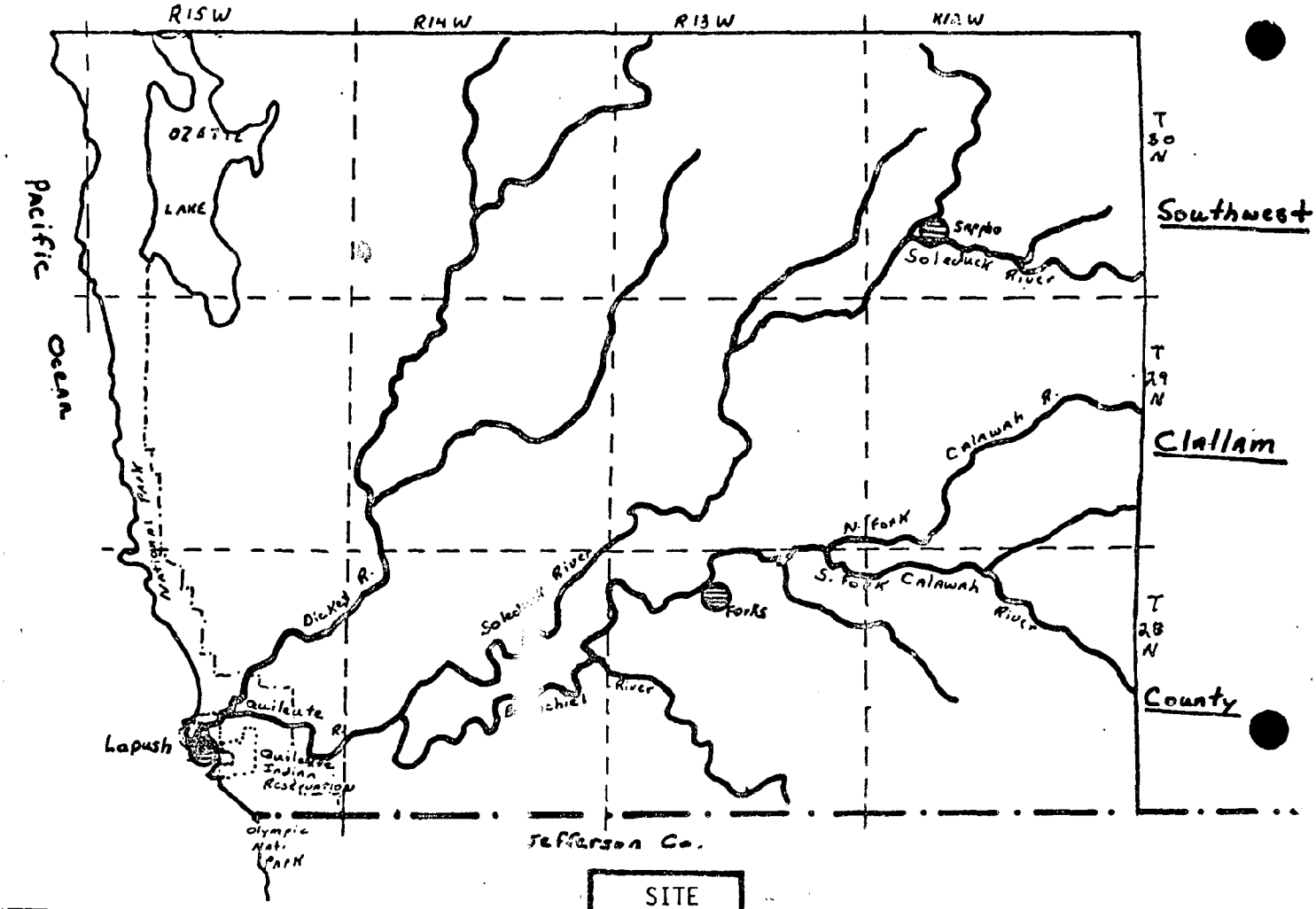
Suitability: (x) suitable ( ) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other

Comments: Provides good basis for evaluating meander of river streambed in recent past.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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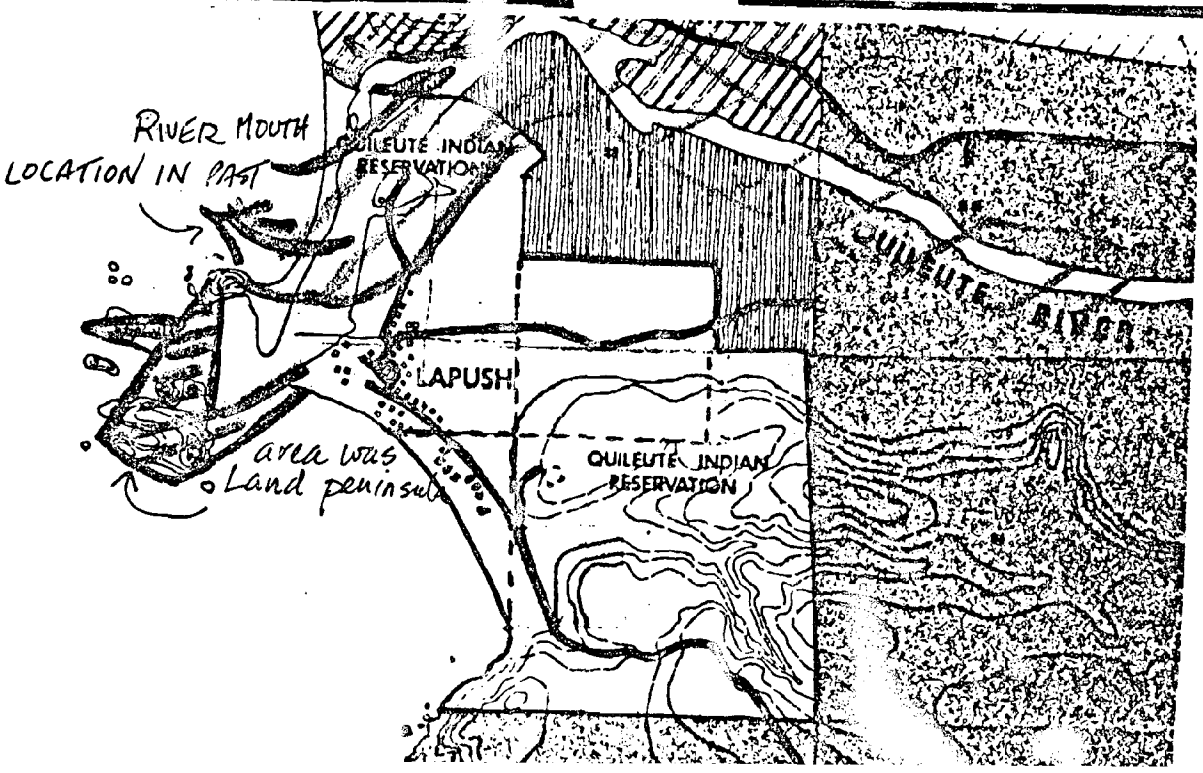


Southside Community Consultants

Name KG

Date 6/7/78

DATA SURVEY FORM

I. Variable Name Navigation (Depth, Land Features, Signals)

II. Source U.S. Dept. of Commerce (NOAA) Page

Nautical Chart, 1977

III. Contact Person/ Location of Data WWU Map Library (WESTERN WASHINGTON UNIVERSITY)

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1:176,253
3. Contour interval: 500 ft.
4. Level of detail: (minimum geographic area) regional
5. Agency that generated data: NOAA
6. Date data produced: 1927 Datum, 1977 map
7. Classifications of data:
   a. Number
   b. Listing Depth of water, land features, navigation aids
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

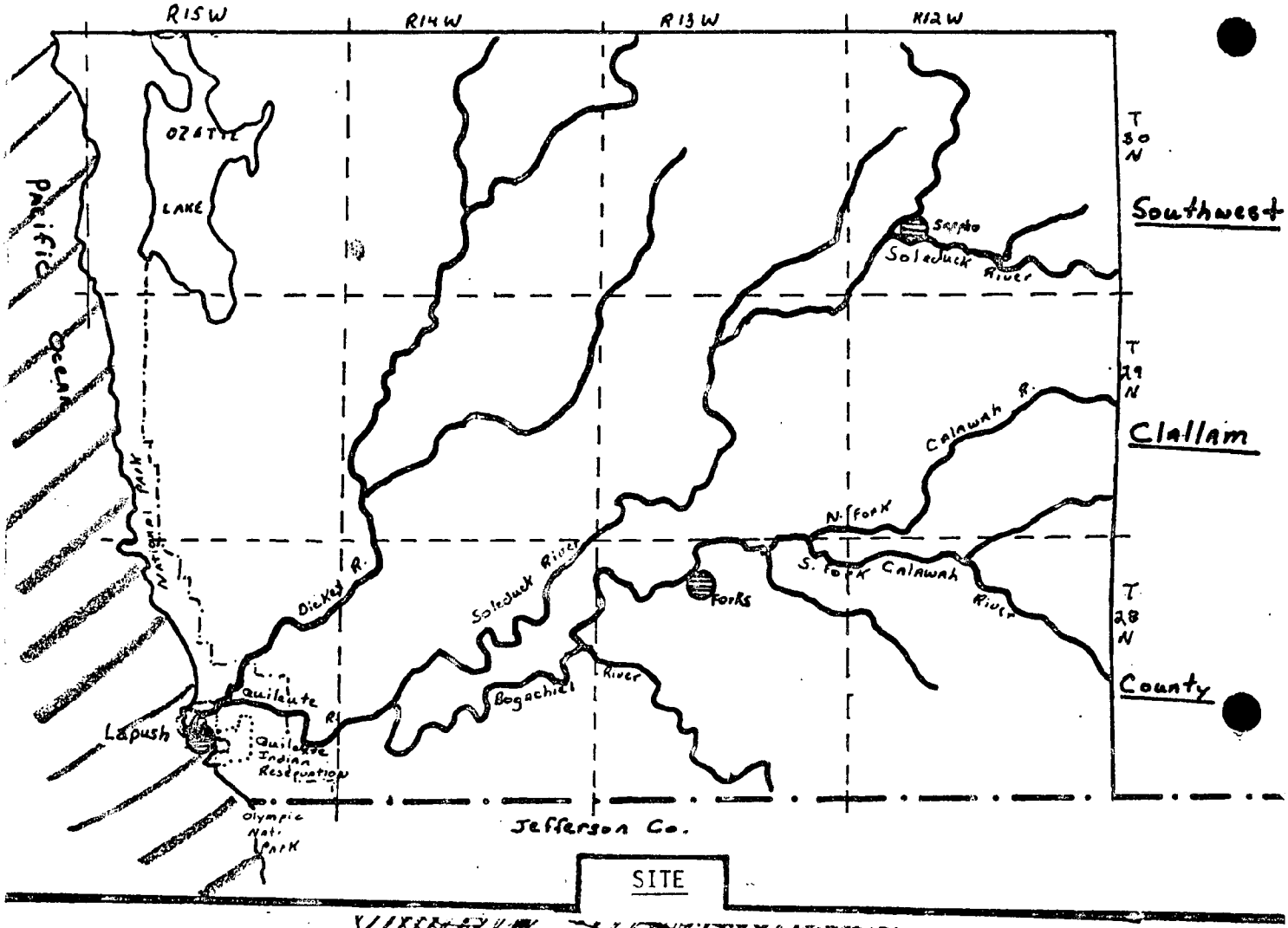
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: (x) outdated (x) scale ( ) accuracy ( ) availability ( ) cost ( ) other

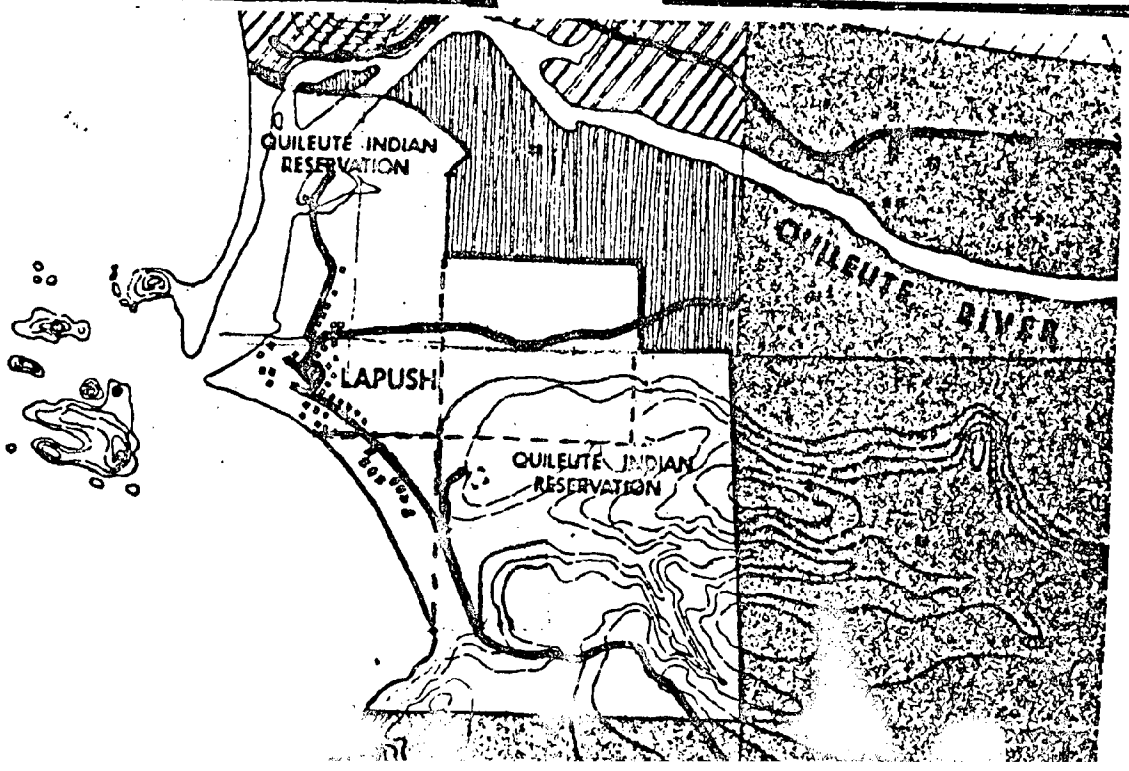
Comments: No contours - only depths at regular locations.
Few close to LaPush.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/15/78

DATA SURVEY FORM

I. Variable Name Base Map

II. Source VTM Associates Page

III. Contact Person/ Location of Data VTM Associates - Bellevue, WA
Also Ken Clark, Clark & Assoc., Port Angeles

CHARACTERISTICS OF DATA

1. Source format: (x) mapped (x) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1" = 100'

3. Contour interval: 5'

4. Level of detail:
(minimum geographic area)

5. Agency that generated data: VTM Assoc.

6. Date data produced: 1975

7. Classifications of data:
   a. Number
   b. Listing Cultural features and topography

8. Is data available? ( ) Yes ( ) No (x) Maybe

9. Cost of data:

EVALUATION

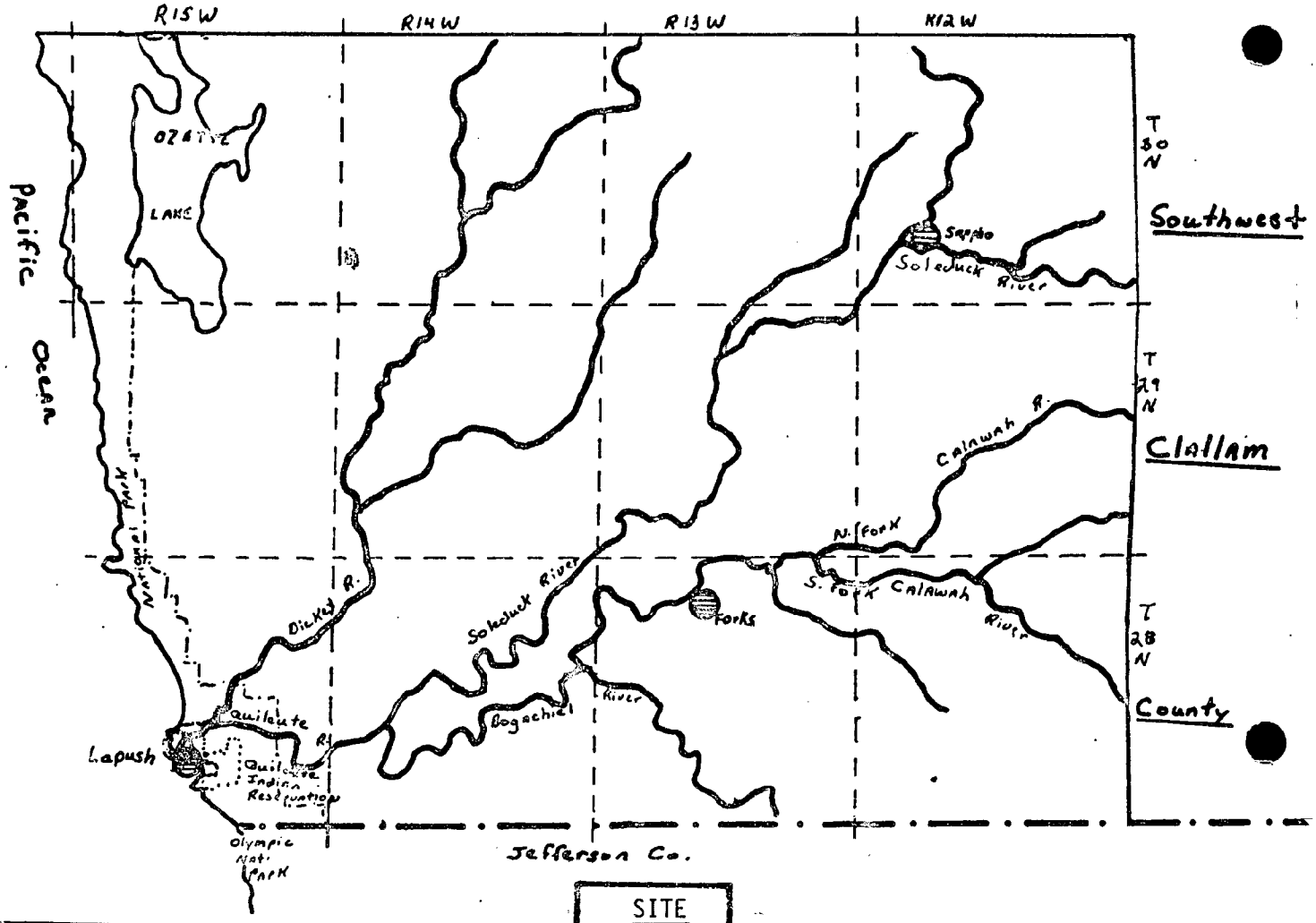
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: (x) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost
( ) other doesn't cover whole site

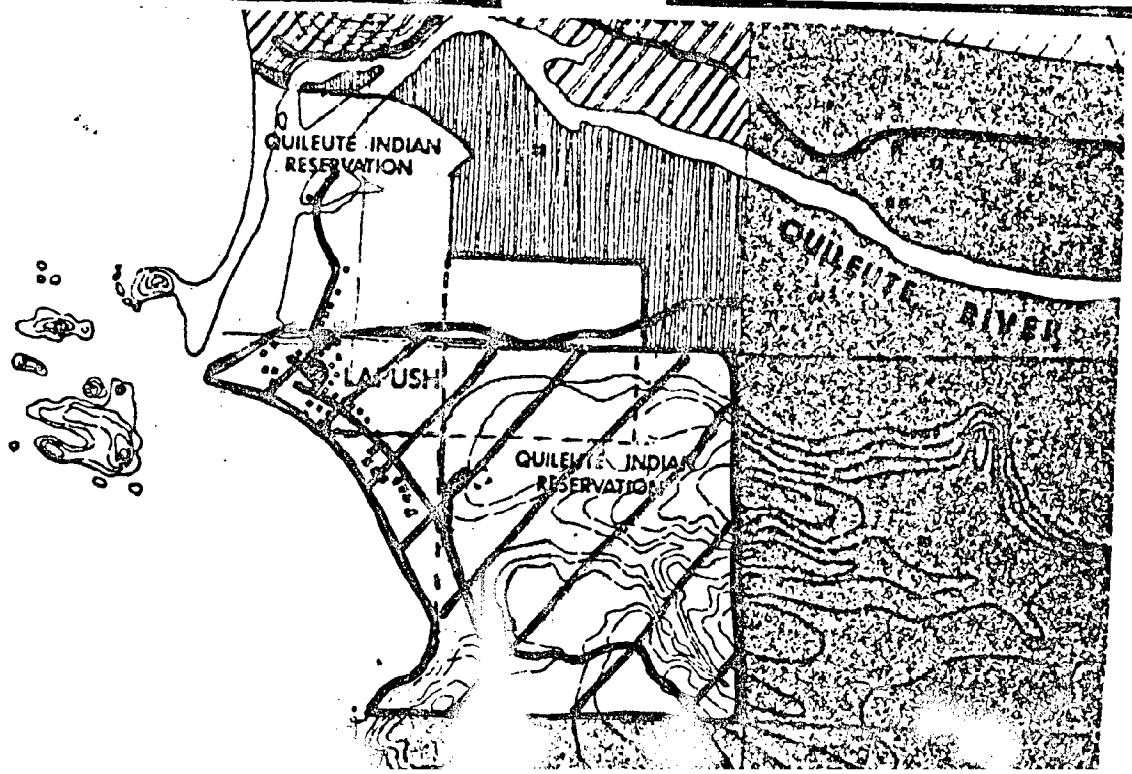
Comments: Does not cover whole reservation.
Ken Clark of Clark & Assoc. was involved in mapping. The above description is from his recollection. He has ground survey notes from that mapping. We have not yet seen original map. See Base Map options discussion.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/7/78

11

DATA SURVEY FORM

I. Variable Name Base Map

II. Source U.S. Geological Survey Page

LaPush Quadrangle, 1935

III. Contact Person/
Location of Data WWU Library

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other
2. Scale of data: 1:62,500
3. Contour interval: 20'
4. Level of detail: regional
(minimum geographic area)
5. Agency that generated data: USGS
6. Date data produced: 1935
7. Classifications of data:
   a. Number
   b. Listing topo and limited cultural features
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

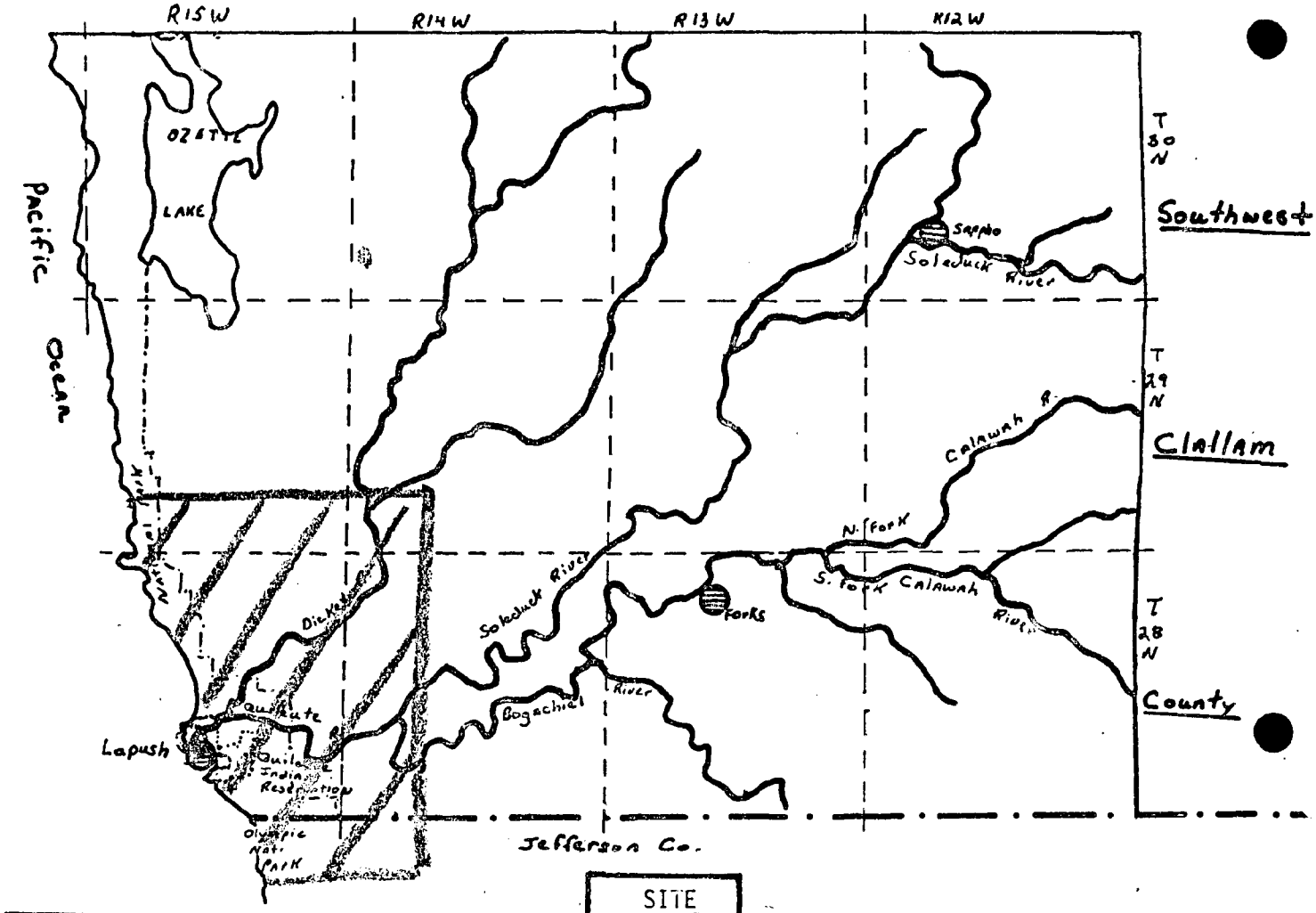
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: (x) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other

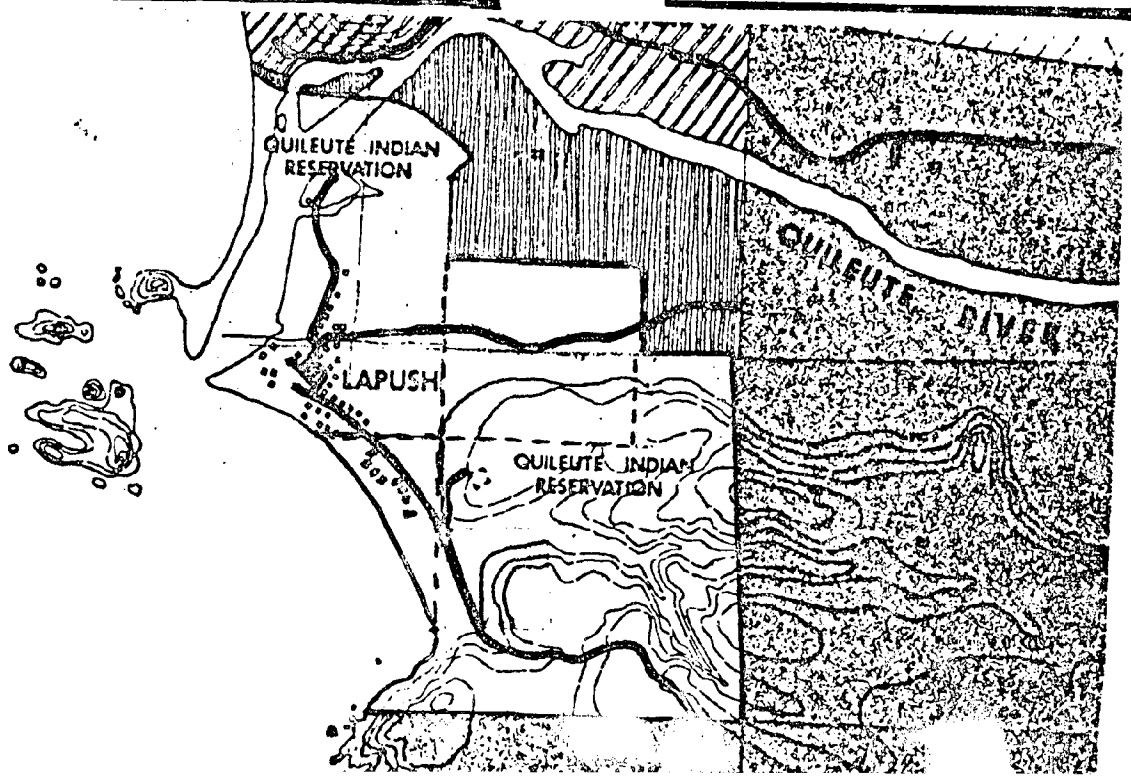
Comments: Higher elevations may be OK; however, the area around LaPush has been altered since the topographic survey was done. Twenty foot contour interval is too large for planning on site to any degree of accuracy.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/8/78

DATA SURVEY FORM

I. Variable Name Base Map

II. Source Pauley, A Plan for the Quileute, 1972 Page Map in Appendix

III. Contact Person/ Location of Data Office of BIA, Everett

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
   ( ) other
2. Scale of data: 1" = 400'
3. Contour interval: 40'
4. Level of detail: parcel
   (minimum geographic area)
5. Agency that generated data: Pauley & Assoc.
6. Date data produced: 1972
7. Classifications of data:
   a. Number
   b. Listing Original survey boundaries, shoreline position, MHT (MEAN HIGH TIDE), meander line, topo, commercial establishments.
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

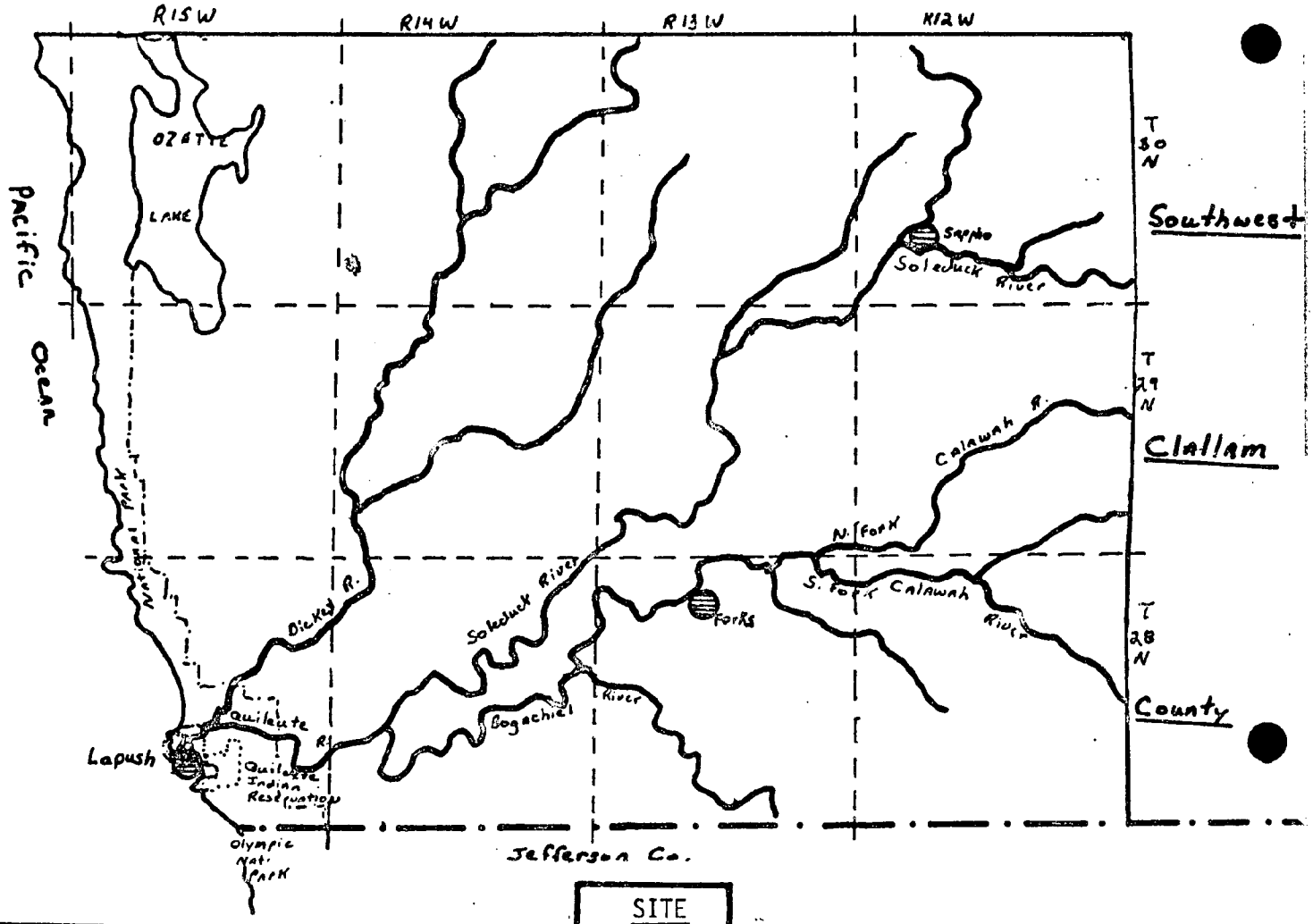
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: (x) outdated ( ) scale (x) accuracy ( ) availability ( ) cost
(x) other contour interval too large

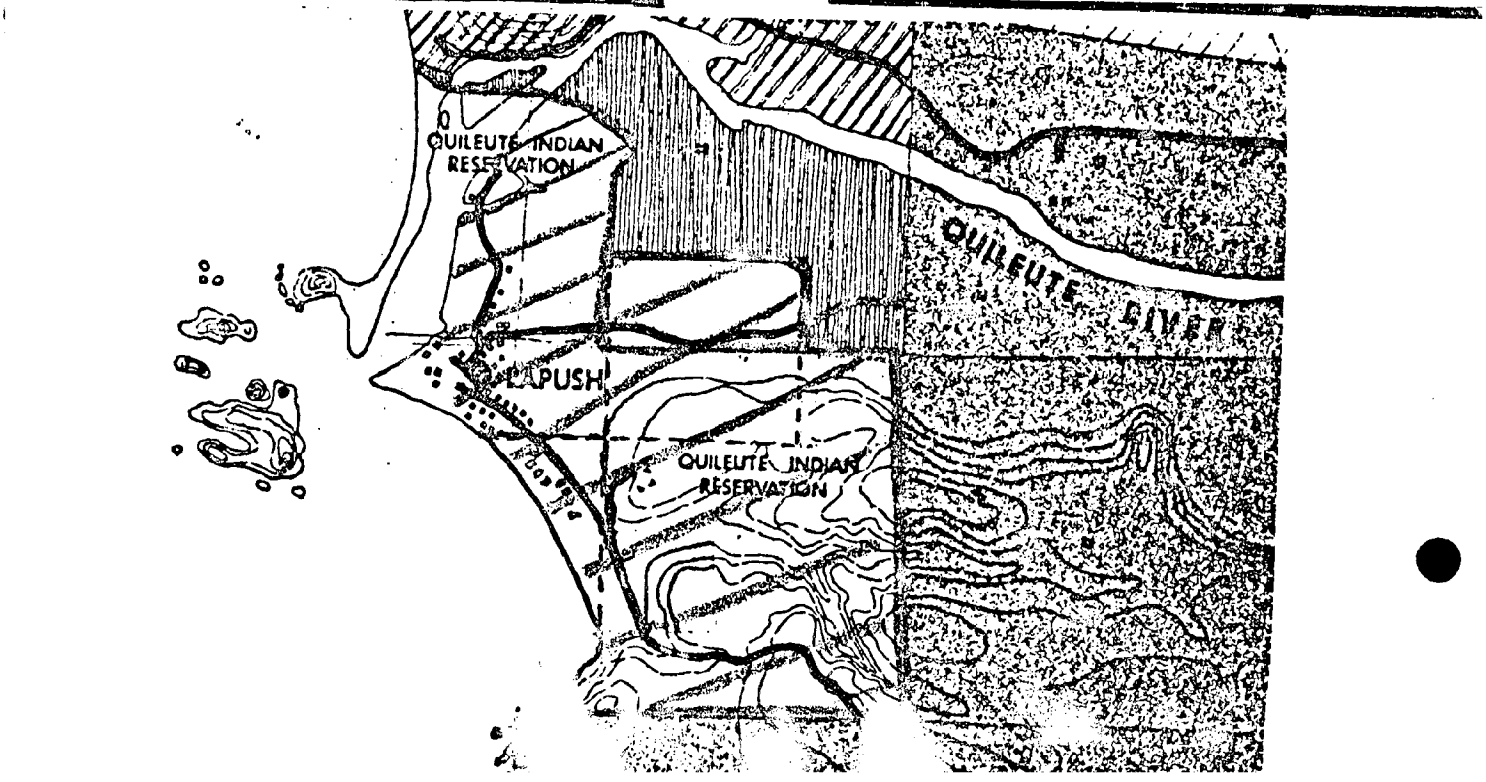
Comments: Excellent map of parcels.
Seems to have been surveyed - try to get source!!
Much of data should be transferred to base map.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/9/78

DATA SURVEY FORM

I. Variable Name Base Map

II. Source CH2M Hill, Sewage Facilities Plan for Village of LaPush, 1974 Page 40

III. Contact Person/
Location of Data provided by tribe

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other
2. Scale of data: 1" = 400'
3. Contour interval: not contoured
4. Level of detail: limited planimetric
(minimum geographic area)
5. Agency that generated data: CH2M Hill
6. Date data produced: 1974
7. Classifications of data:
   a. Number
   b. Listing
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

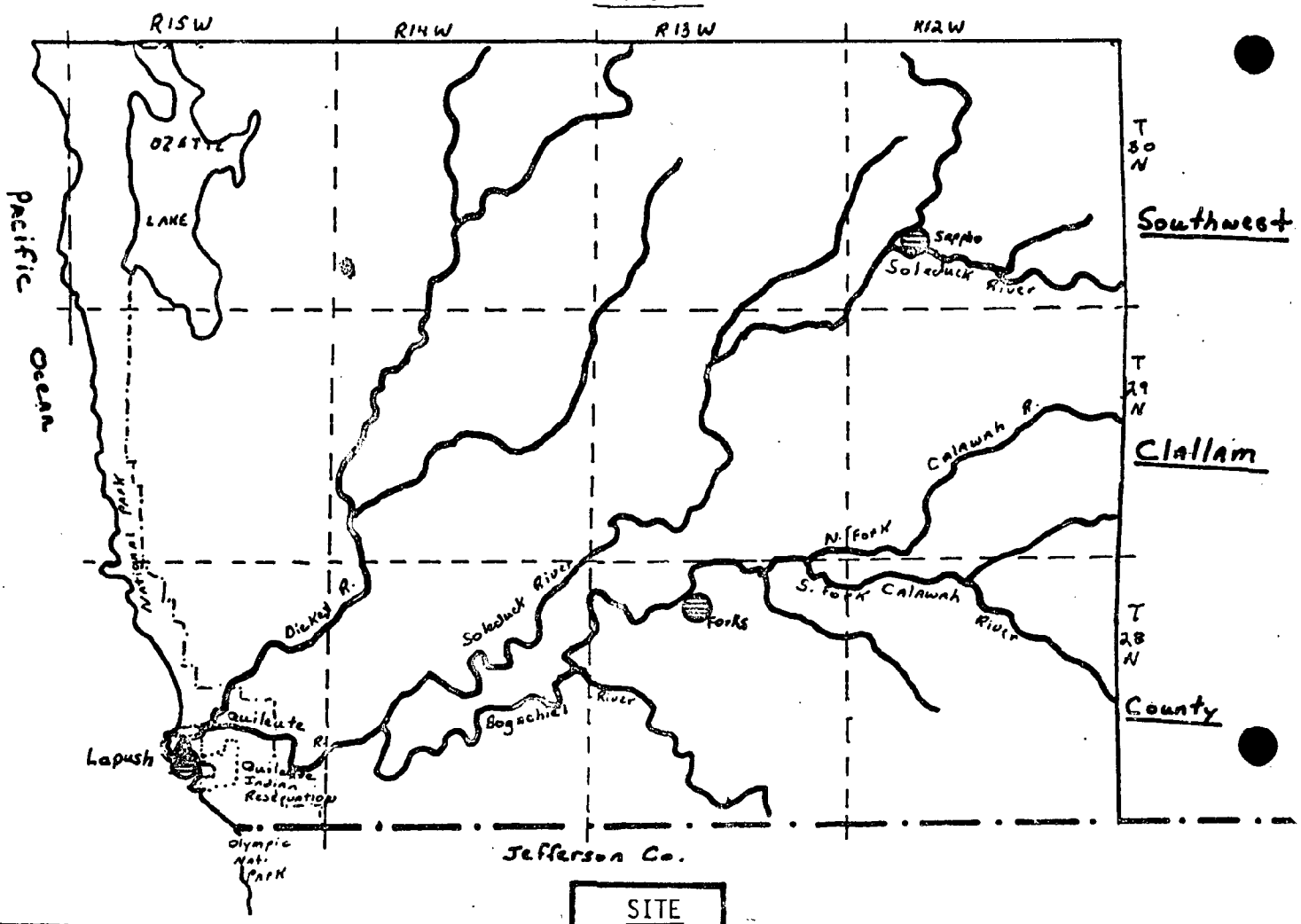
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost
( ) other

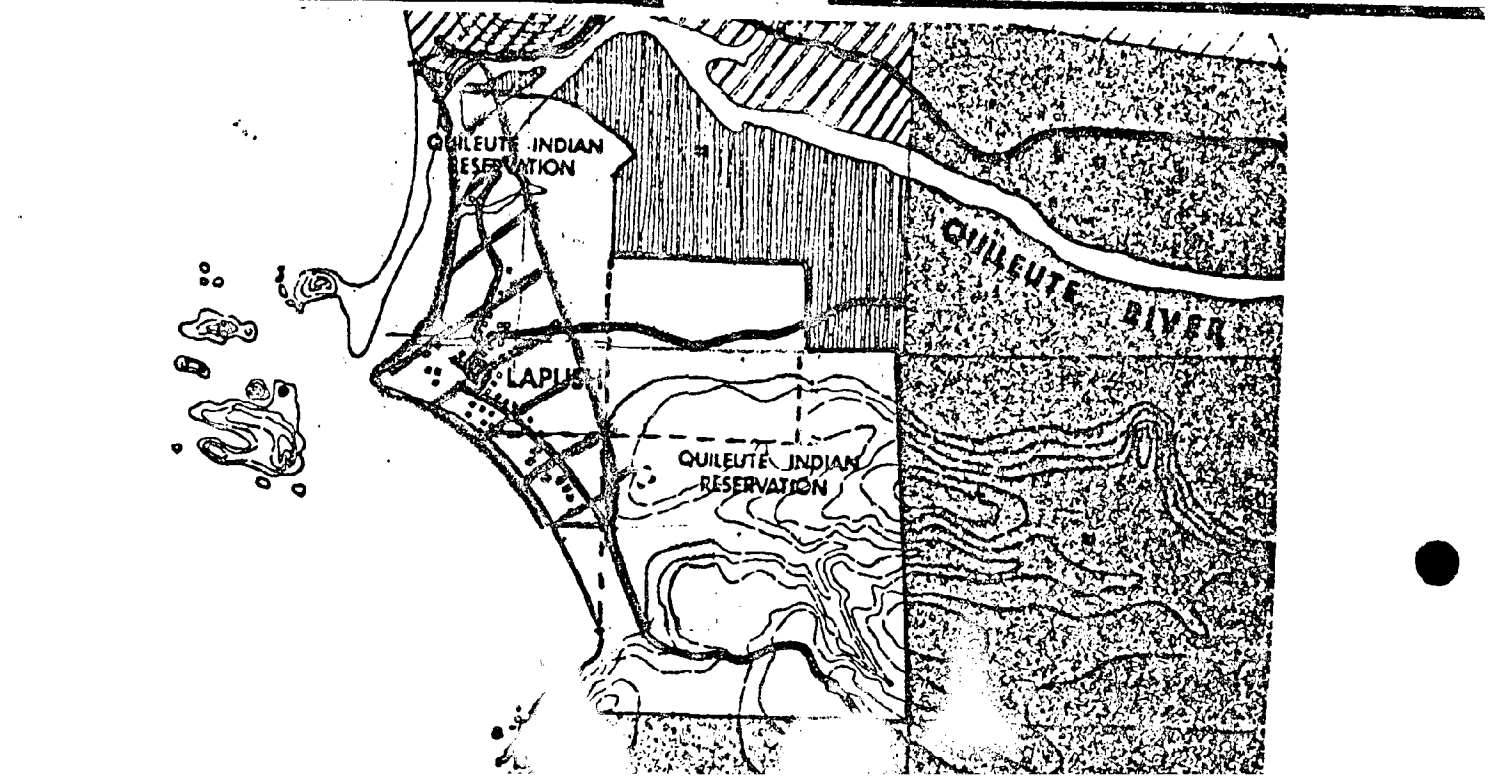
Comments: Good base map without topo for LaPush Village.
Includes all structures. Must be updated.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/7/78

DATA SURVEY FORM

I. Variable Name Topography

II. Source Dept. of Natural Resources, Page

Orthophoto, 1973

III. Contact Person/
Location of Data

WWU Map Library

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1" = 2000' or 1:24,000

3. Contour interval: 40'

4. Level of detail: Township
(minimum geographic area)

5. Agency that generated data: DWR

6. Date data produced: Photography, 1973

7. Classifications of data:

a. Number

b. Listing Blown up aerial photograph with contours and sections overprinted.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

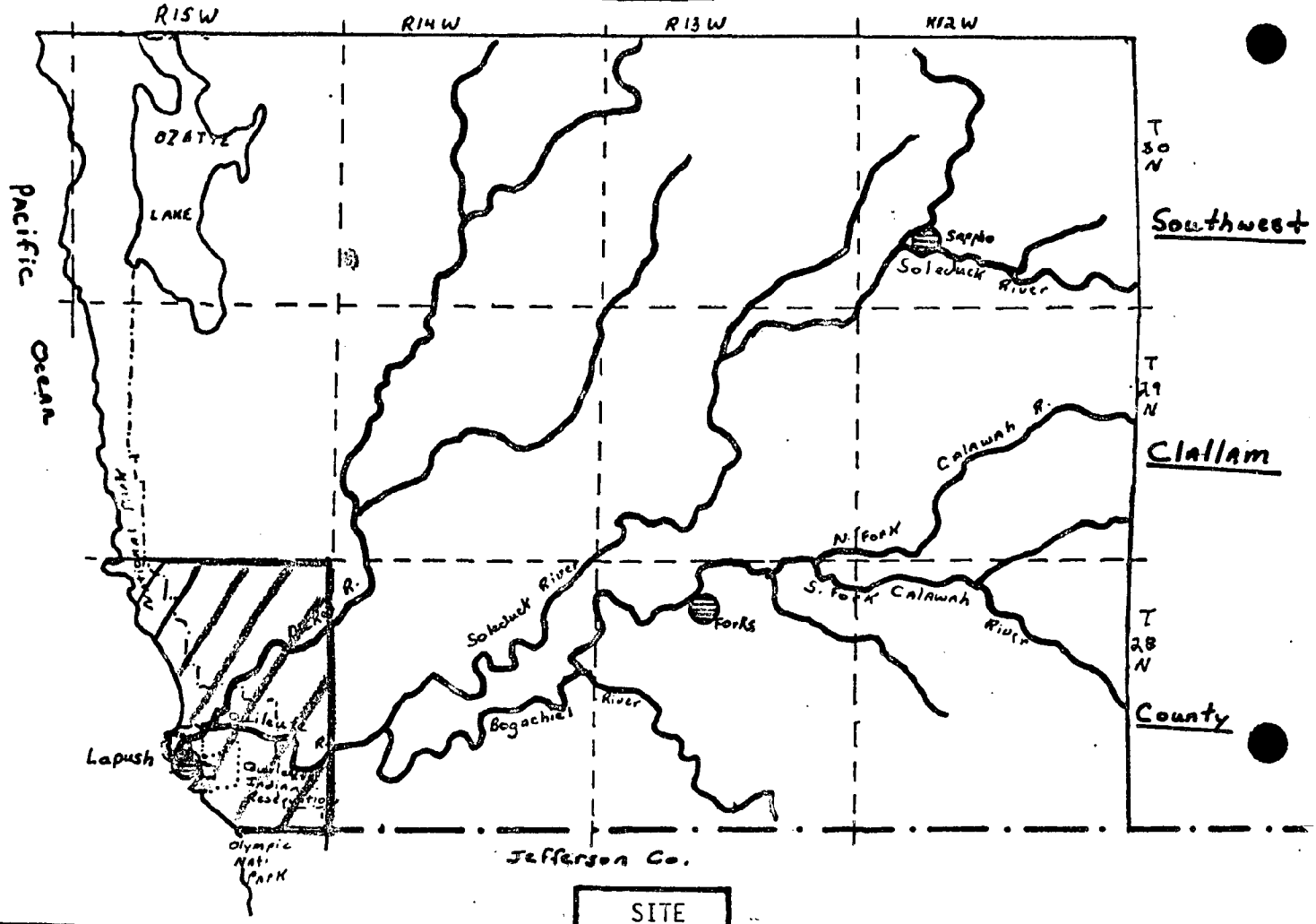
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other

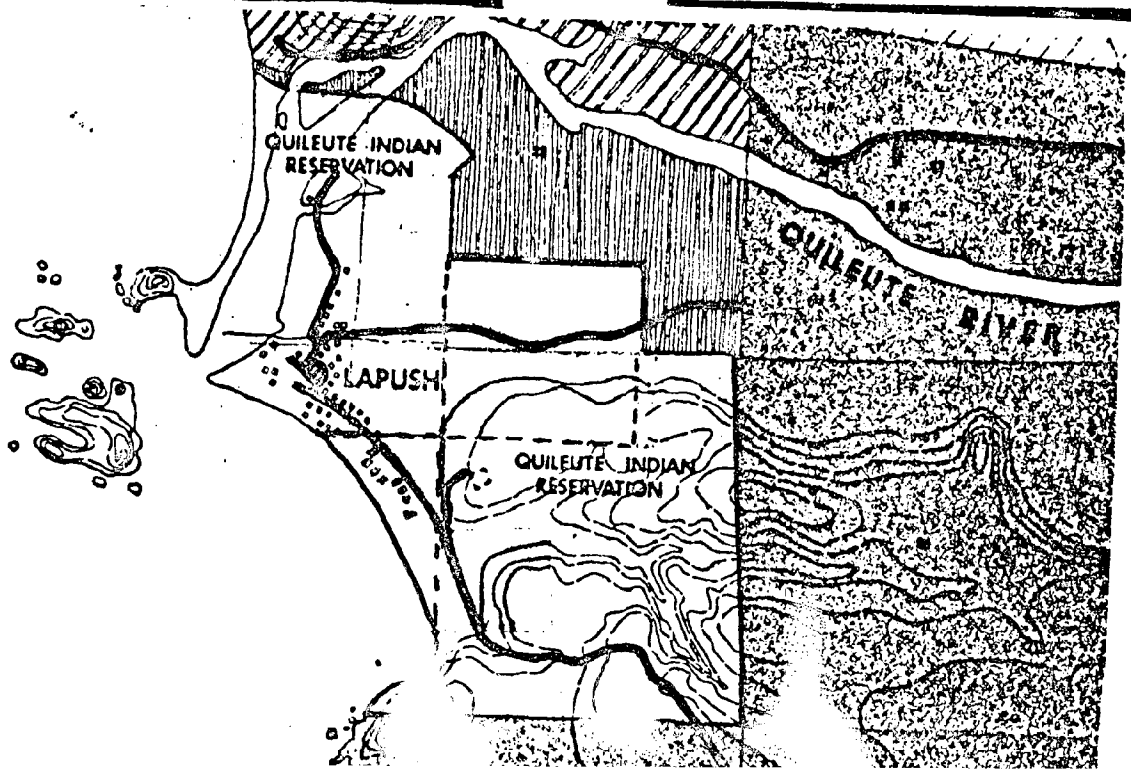
Comments: Contour interval and scale are too large. Suitable for regional planning only. May be used as base map if enlarged but accuracy will be poor.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



II. NATURAL ENVIRONMENT

-- CLIMATE 15-20

-- GEOLOGY 21-33

-- SOIL 34-43

-- RIVER AND STREAMS 44-54

-- WILDLIFE 55-73

Southside Community Consultants

Name KG

Date 6/3/78

DATA SURVEY FORM

I. Variable Name Climate

II. Source Corps of Engineers, Environmental Evaluation - Quileute River Spit Restoration, 1974 Page 13

III. Contact Person/ Location of Data provided by tribe

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: ?
3. Contour interval: NA
4. Level of detail: (minimum geographic area) Regional
5. Agency that generated data: Corps of Engineers
6. Date data produced: ?
7. Classifications of data:
   a. Number
   b. Listing Annual & diurnal temp. range, mean temperature winter & summer, temp. extreme, avg. annual precip., avg. annual snowfall, wind velocity.
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

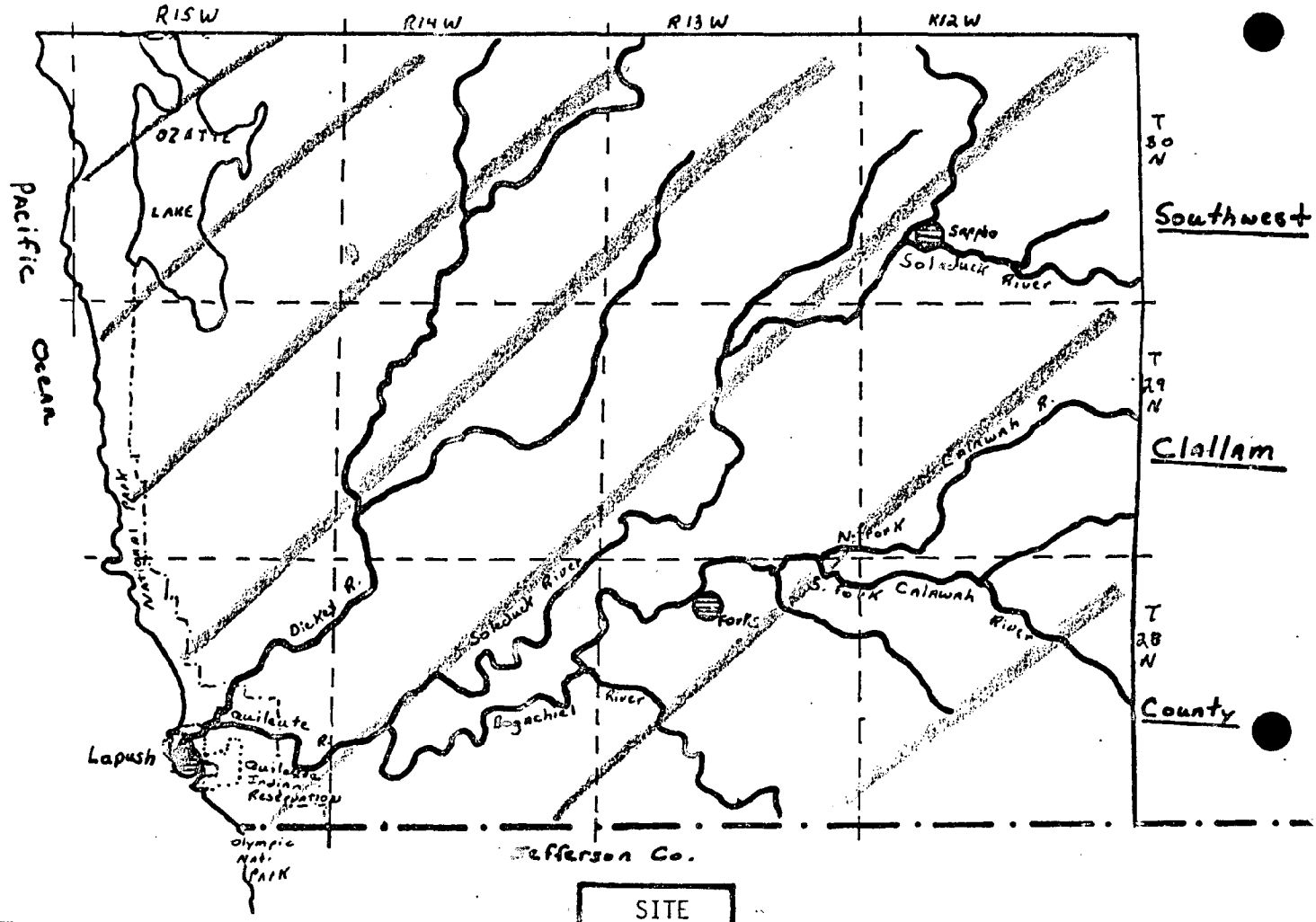
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale ( ) accuracy ( ) availability ( ) cost ( ) other source not known, not mappable.

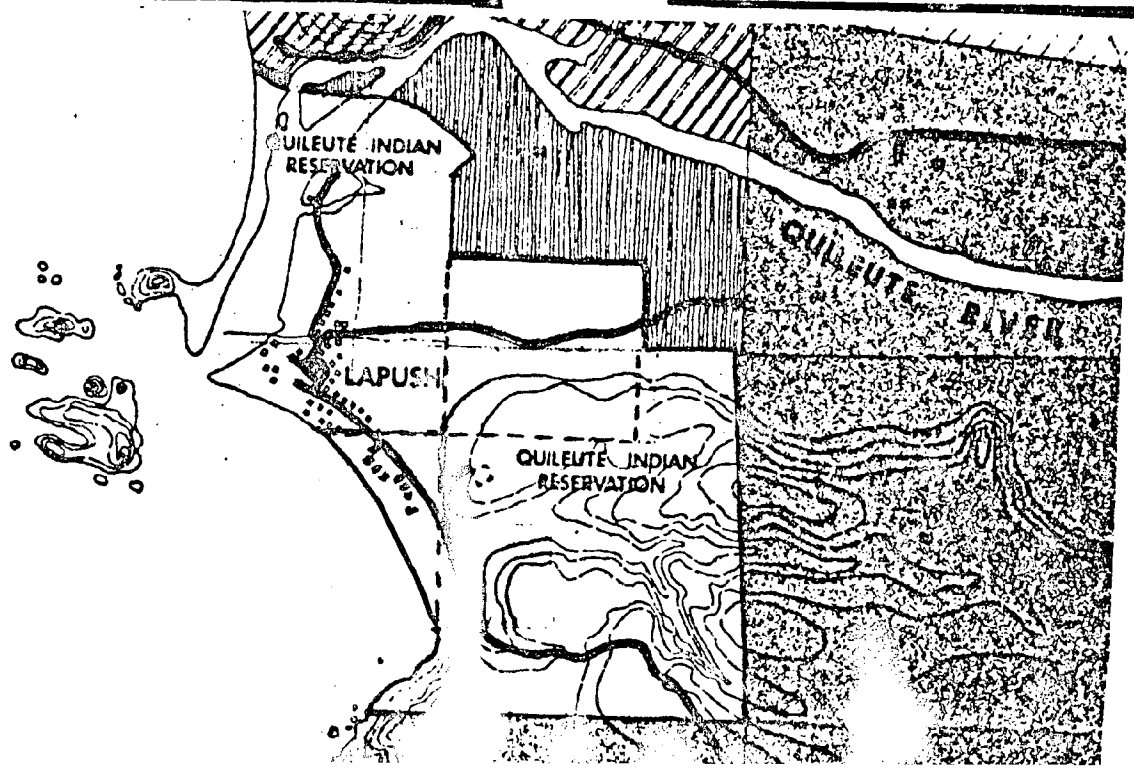
Comments: Useful background data at regional and site scale once verified.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside Community Consultants

Name KG

Date 5/31/78

DATA SURVEY FORM

I. Variable Name Climate,

II. Source Quileute Tribe of Indians Page 2
Planning Document I, 1973
People Space Architecture

III. Contact Person/ Location of Data
Provided by tribe.

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other

2. Scale of data: None - assume regional

3. Contour interval: NA

4. Level of detail: (minimum geographic area) Very general

5. Agency that generated data: Not referenced

6. Date data produced: Not referenced

7. Classifications of data:
   a. Number 3
   b. Listing Frost free days;
   , annual precip.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

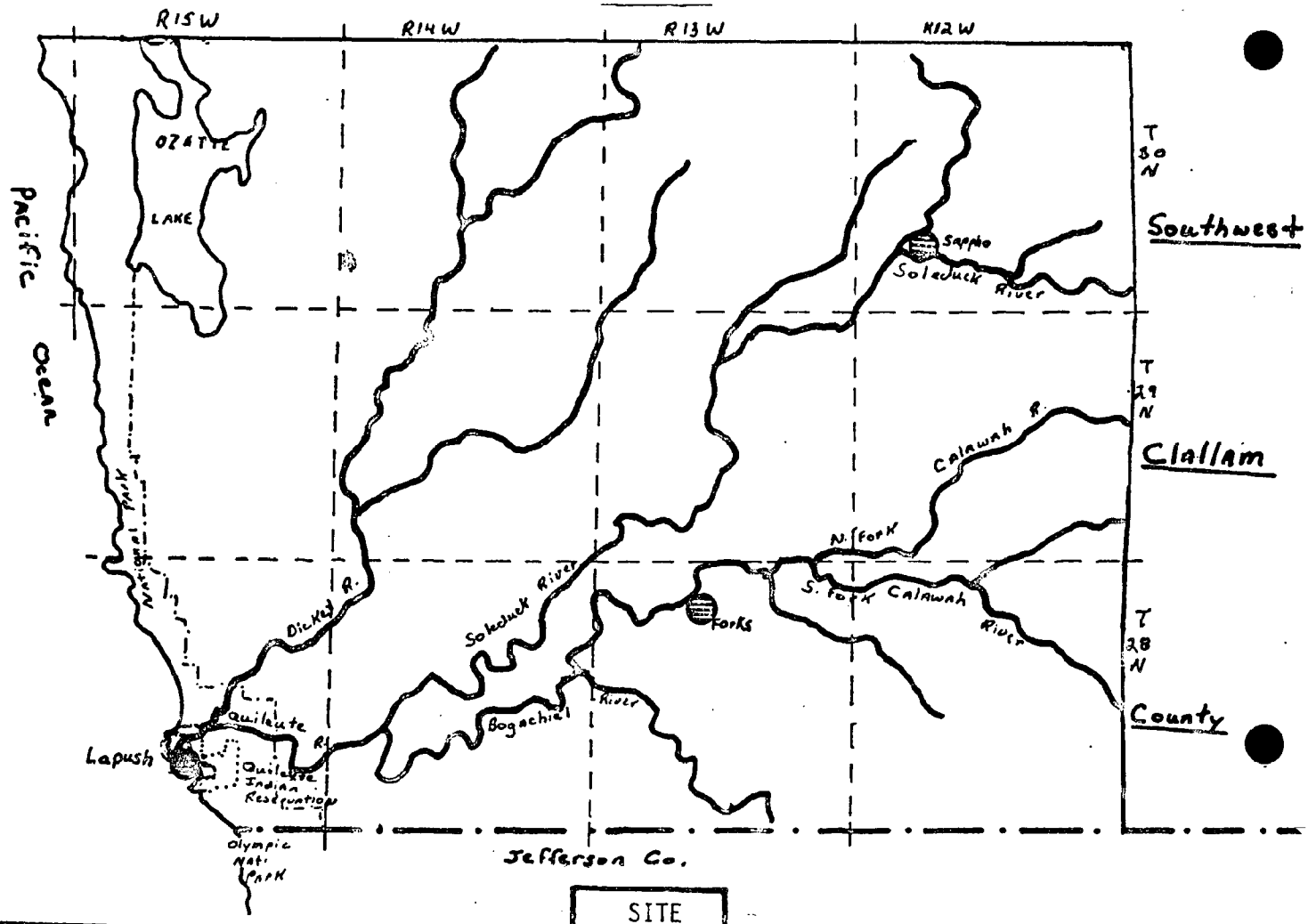
Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost (x) other not documented

Comments: Not spatial, so can not be mapped.

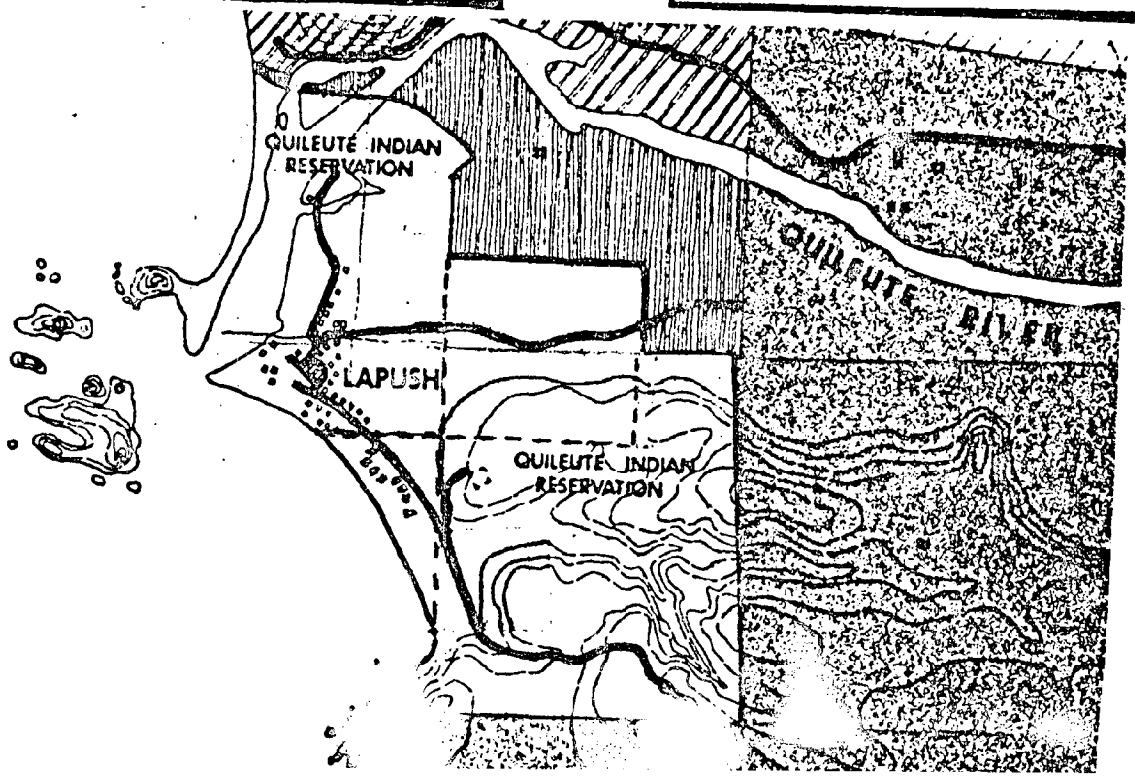
Useful as background data.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/7/78

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DATA SURVEY FORM

I. Variable Name Wind, DIRECTION AND SPEED

II. Source Dept. of Natural Resources, Page 2
Washington Marine Atlas, 1974

III. Contact Person/
Location of Data Clallam County Planning

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other with legend

2. Scale of data: 1" = 5 miles

3. Contour interval: NA

4. Level of detail: general
(minimum geographic area)

5. Agency that generated data: ?

6. Date data produced: ?

7. Classifications of data:
   a. Number
   b. Listing average velocity by season.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

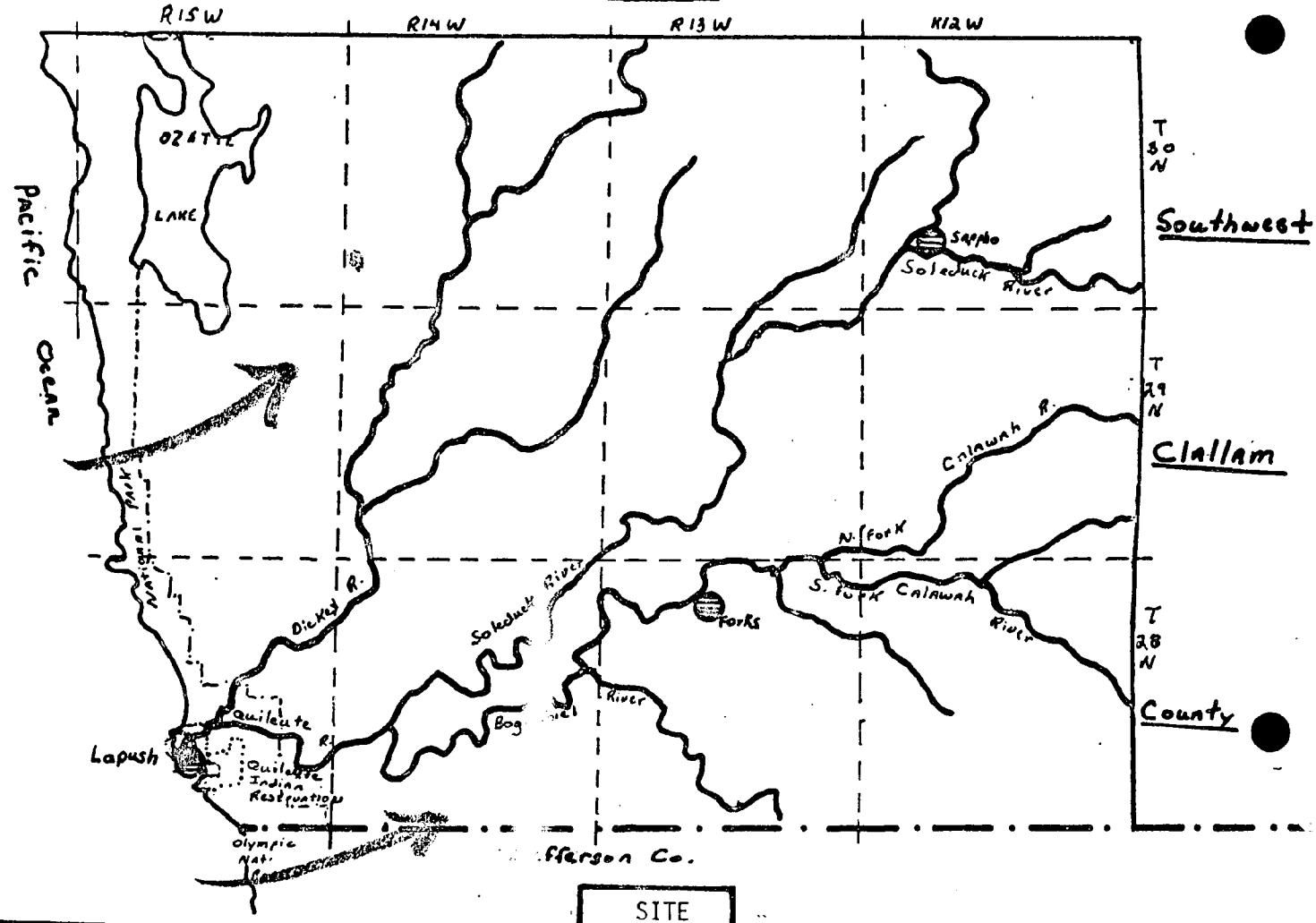
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other source not known

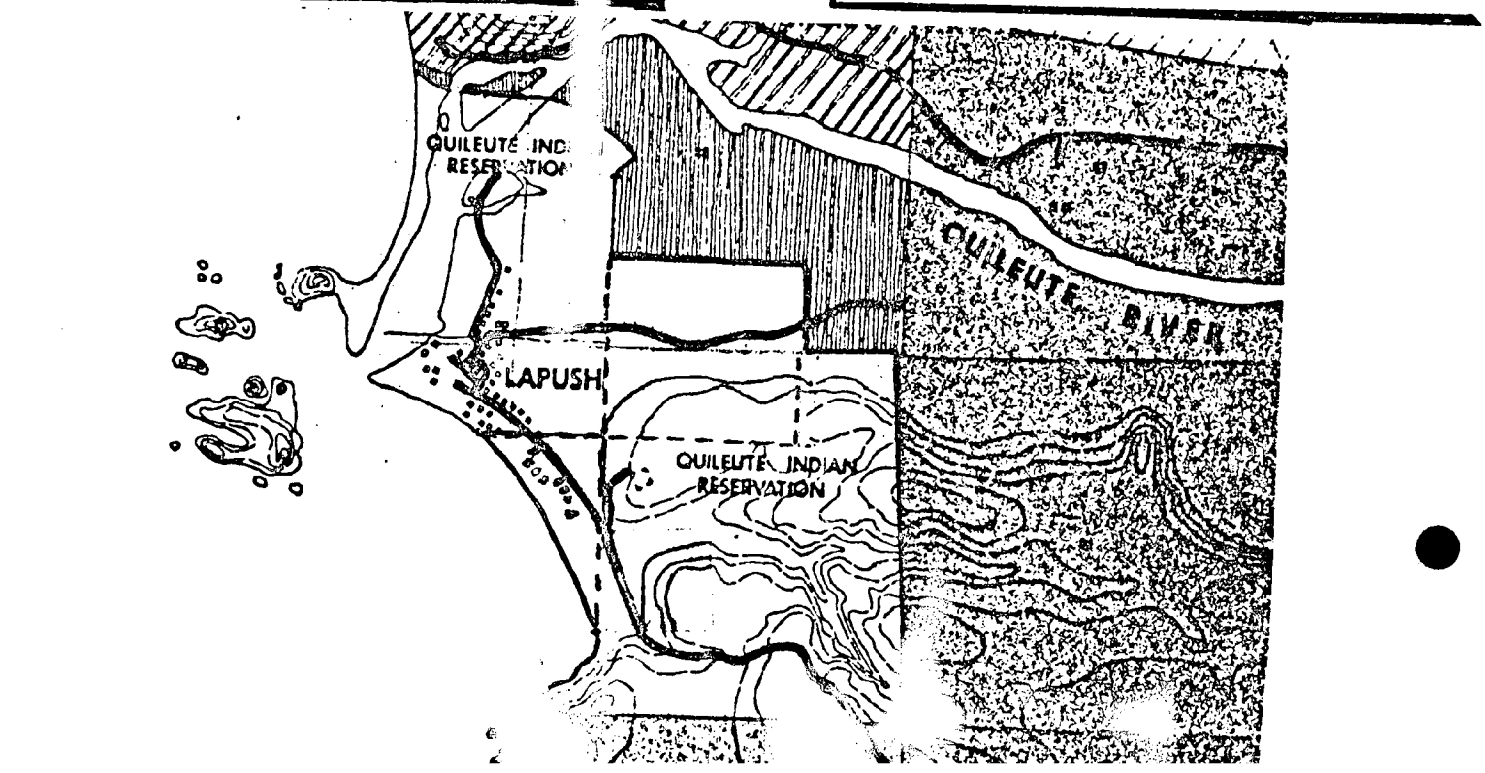
Comments: Useful background data at site on regional scale.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/14/78

DATA SURVEY FORM

I. Variable Name Wind Velocity

II. Source Franklin, West Coast Disaster, 1964 Page 126

III. Contact Person/ Location of Data NW. Room, Port Angeles Library

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 50 miles
3. Contour interval: NA
4. Level of detail: (minimum geographic area) Regional
5. Agency that generated data: BPA
6. Date data produced: 1962
7. Classifications of data:
   a. Number
   b. Listing Maximum wind velocity recorded during storm of 1962 along Pacific Coast - Isobar MAPPING ; M.P.H (MILES PER HOUR)
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

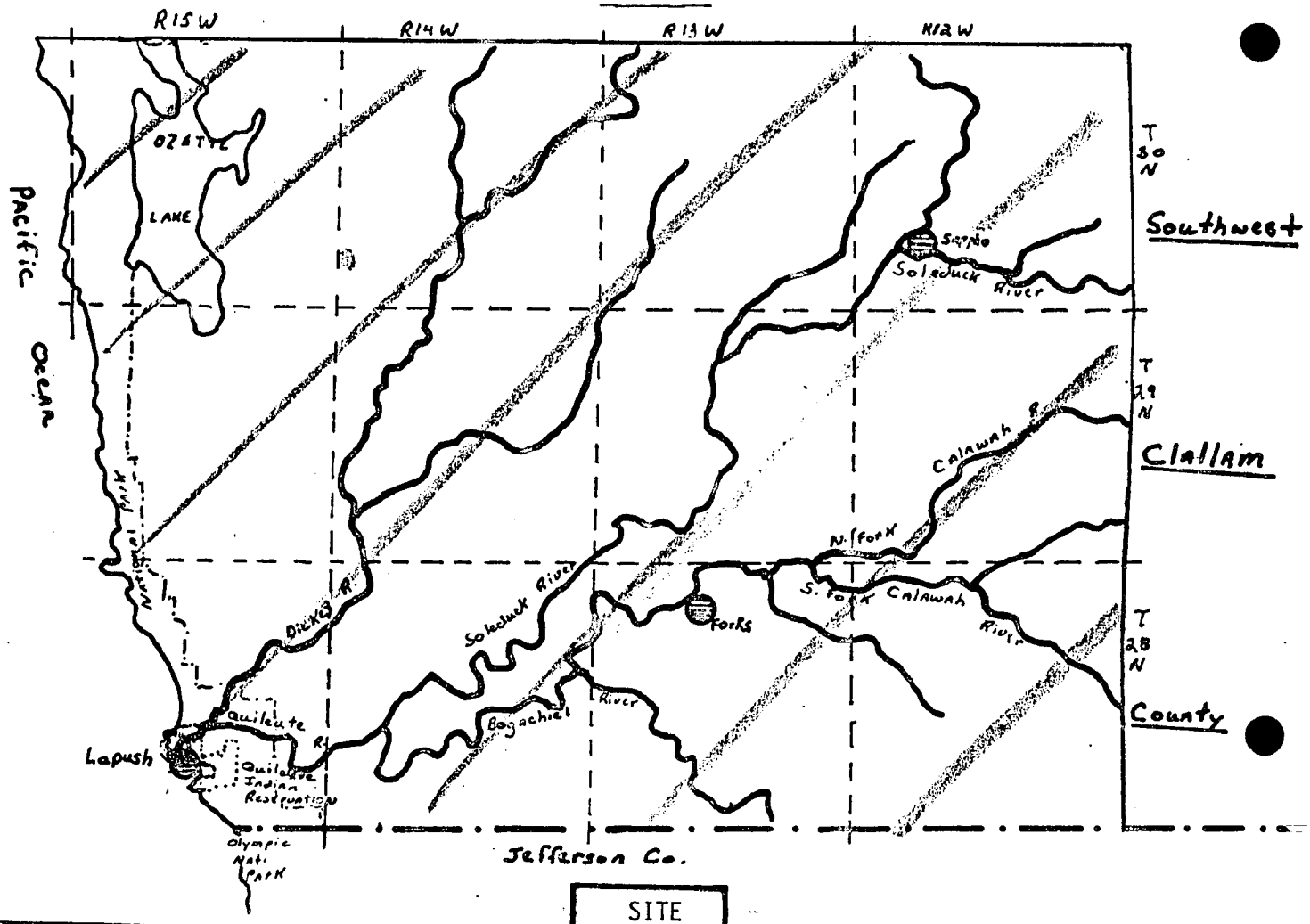
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other

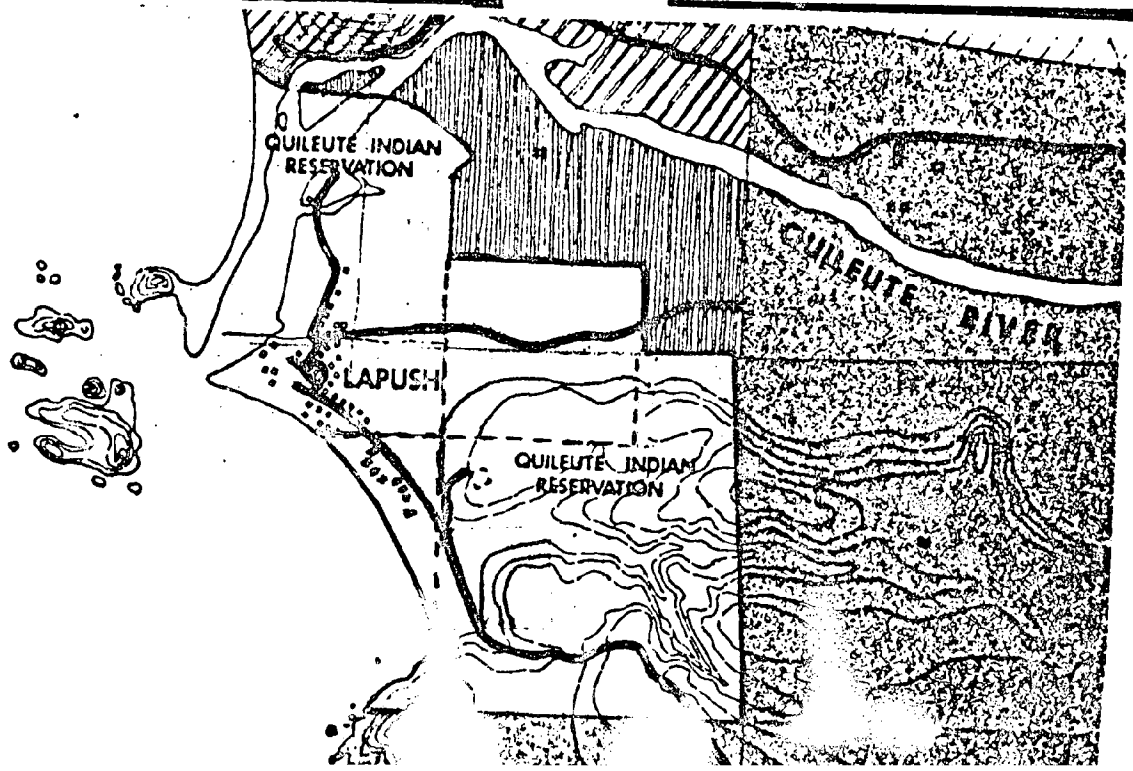
Comments: Background information with limited utility unless it can be keyed to waves, flooding, or structural stability.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside Community Consultants

Name KG

Date 6/12/78

DATA SURVEY FORM

I. Variable Name Temperature

II. Source Pacific NW. River Basins Commission Page 773
Comprehensive Framework Study
Appendix V, 1971

II. Contact Person/ Location of Data WWU Library (WESTERN WASHINGTON UNIVERSITY)

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo ( ) text (x) tabular ( ) digital
( ) other

2. Scale of data: NA

3. Contour interval: NA

4. Level of detail: Point
(minimum geographic area)

Agency that generated data: ?

5. Date data produced: 1970

7. Classifications of data:
   a. Number
   b. Listing Avg. and extreme temperature - mean over period 1931-1960 at Forks.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

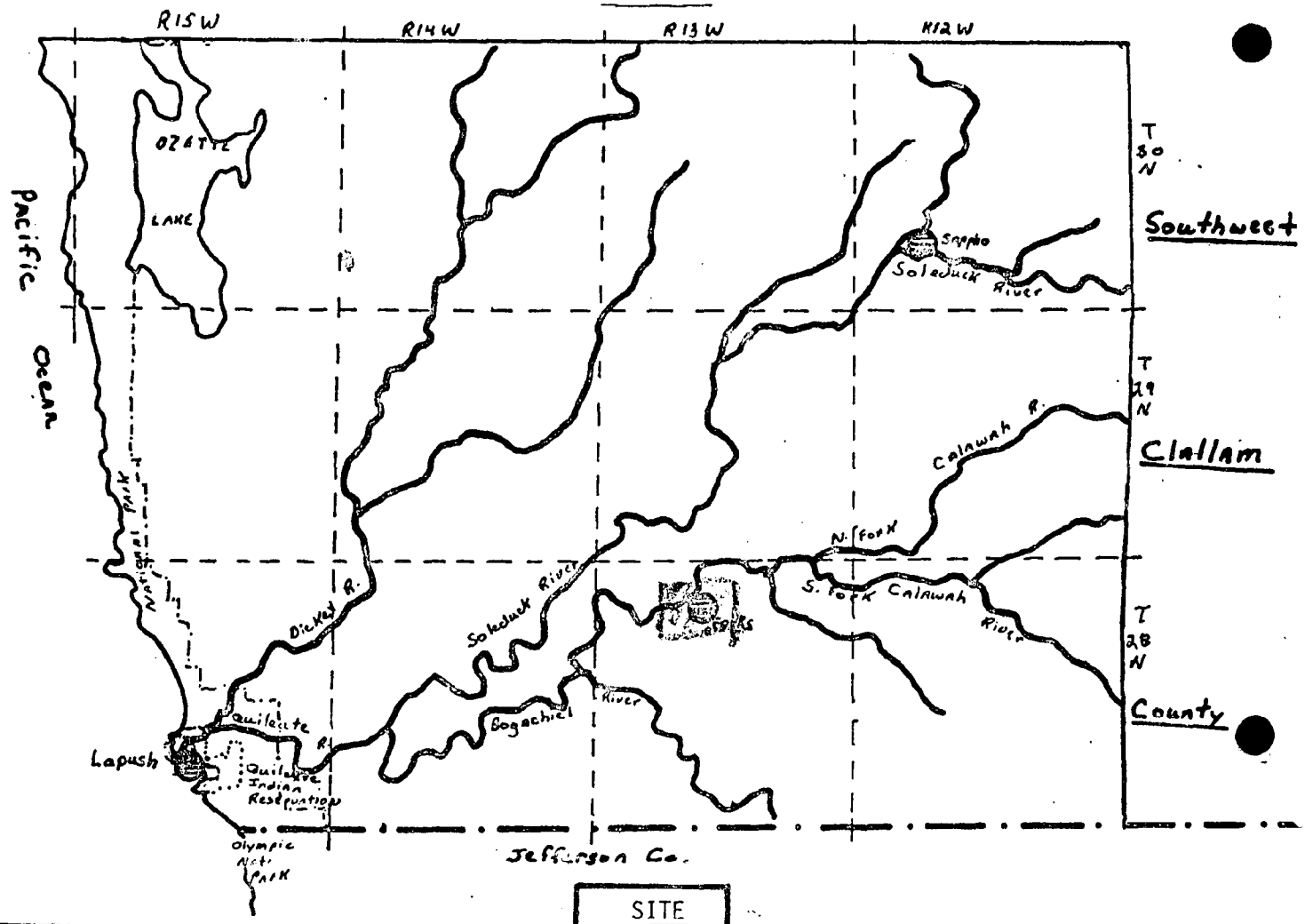
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other Source not known, not recorded on reservation.

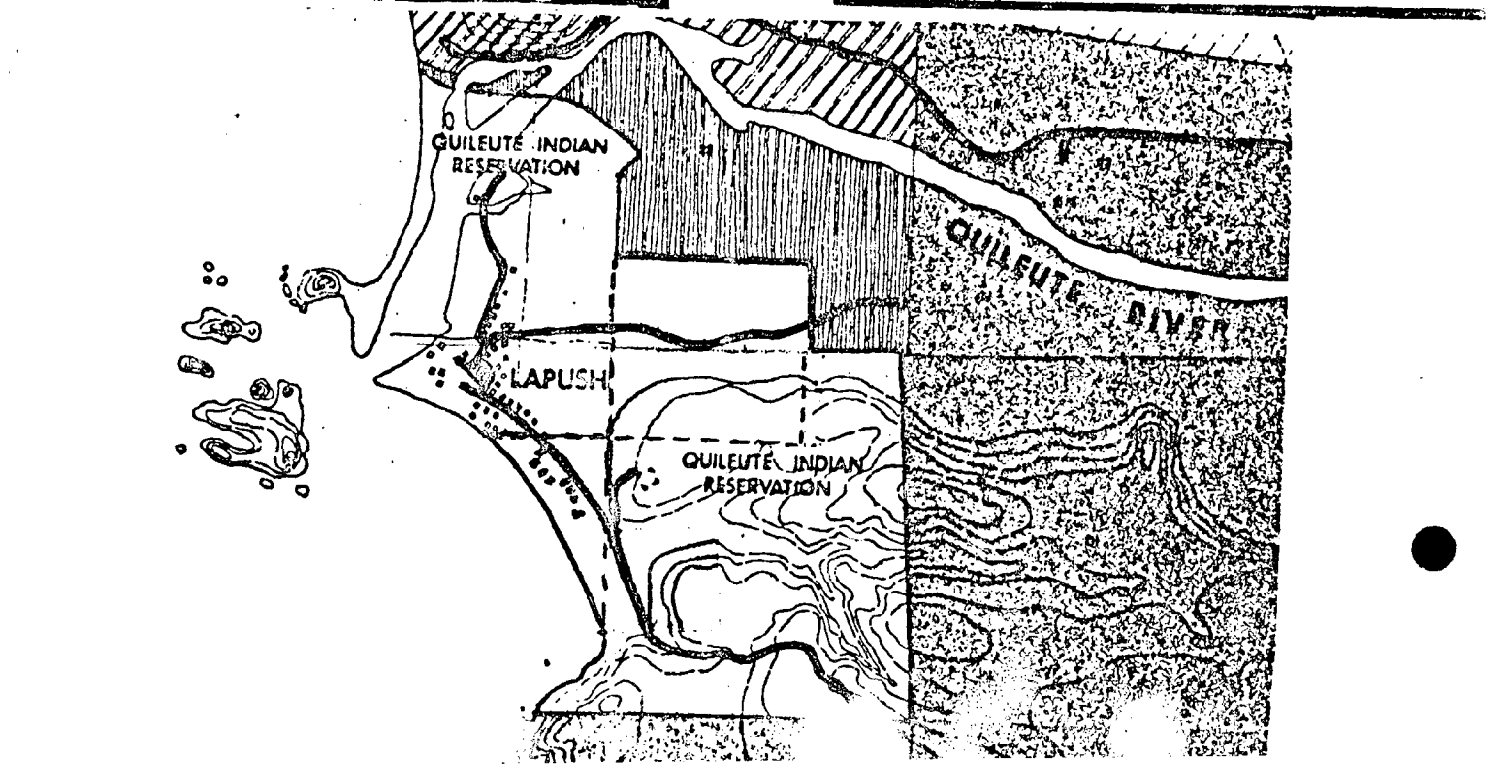
Comments: Suitable for regional background data only.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 9/7/78

DATA SURVEY FORM

I. Variable Name Temperature & Precipitation

II. Source Soil Conservation Service, Page 6
Soil Survey, Clallam County, 1951

III. Contact Person/
Location of Data provided by tribe.

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo ( ) text (x) tabular ( ) digital
( ) other

2. Scale of data: NA

3. Contour interval: NA

4. Level of detail: monthly means and extremes at Forks
(minimum geographic area)

5. Agency that generated data: not reported

6. Date data produced: not specified

7. Classifications of data:
   a. Number
   b. Listing Mean precip., total for driest year, total wettest year,
   average snowfall.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

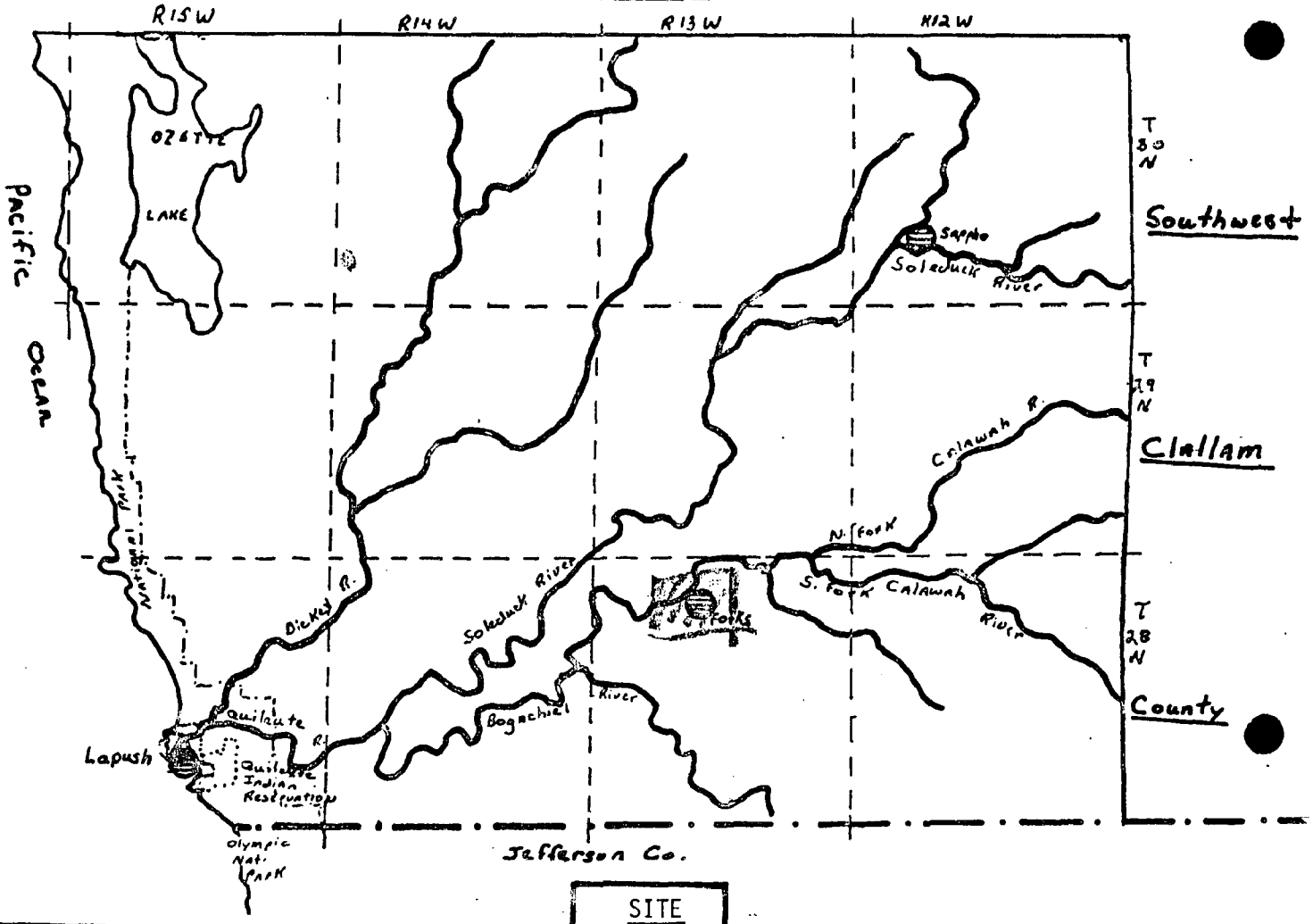
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: (x) outdated ( ) scale (x) accuracy ( ) availability ( ) cost
( ) other no source reported, not mappable

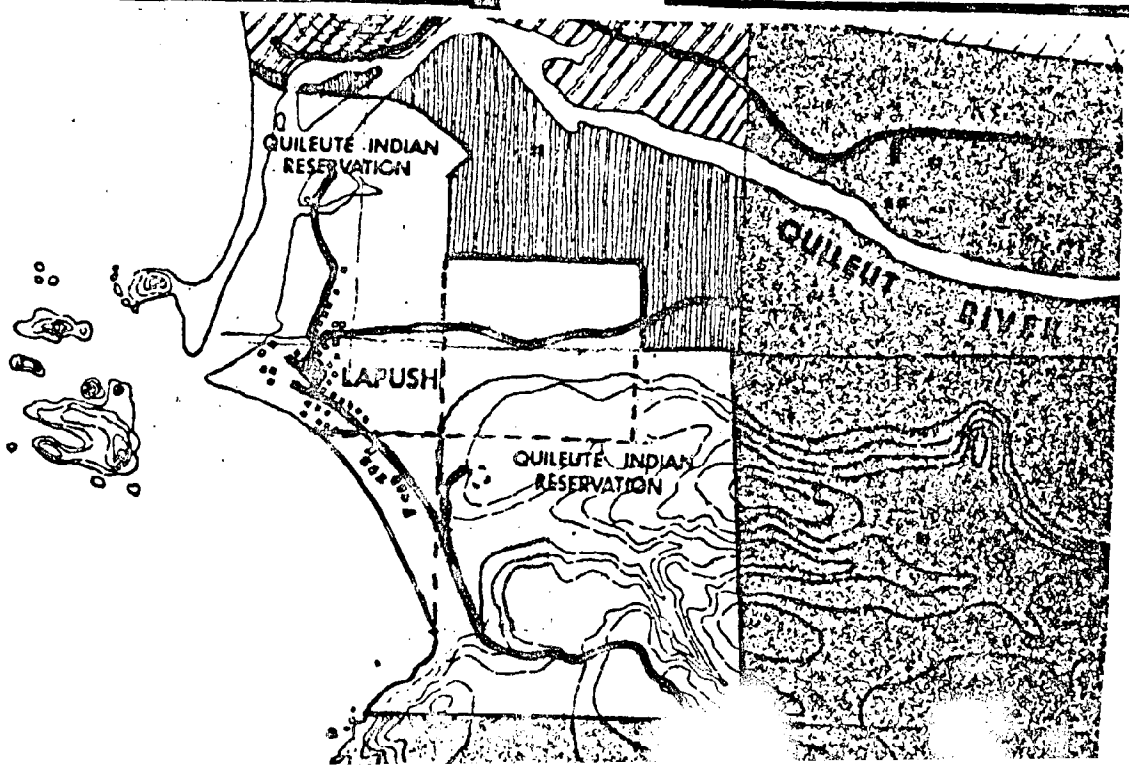
Comments:
May not be representative of reservation but useful as background data.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/12

DATA SURVEY FORM

I. Variable Name Geology

II. Source Rau, Geologic Map, unpublished records Page

III. Contact Person/ Location of Data DNR, DIVISION OF GEOLOGY AND EARTH RESOURCES, OLYMPIA, WA.

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1:48,000 1" = 4000'
3. Contour interval: 40'
4. Level of detail: geologic unit approx. 10 acres (minimum geographic area)
5. Agency that generated data: DNR
6. Date data produced: 1975-78
7. Classifications of data:
   a. Number
   b. Listing Rock types, ages, faults, strike & dip, contacts
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

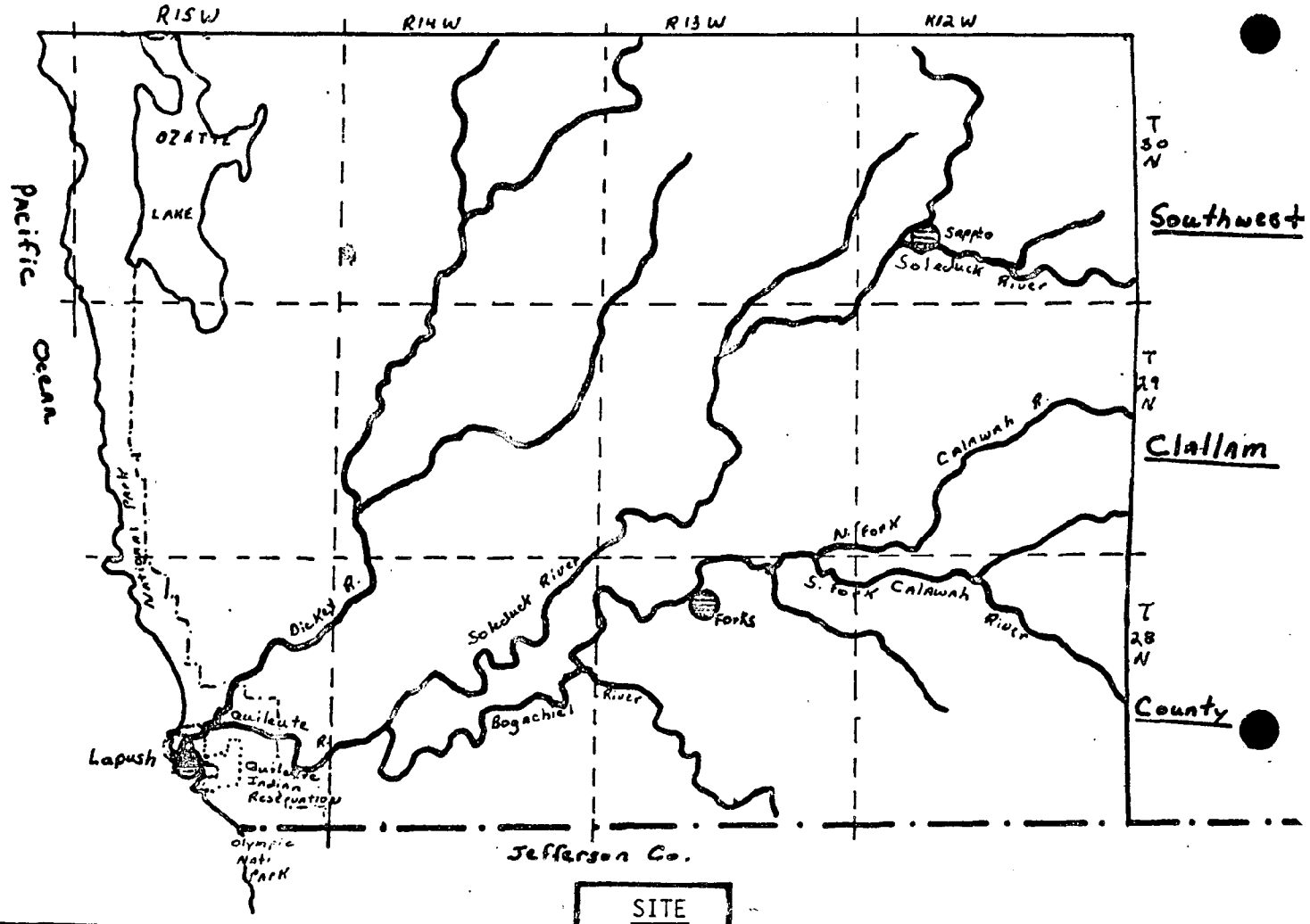
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy (x) availability ( ) cost ( ) other not published

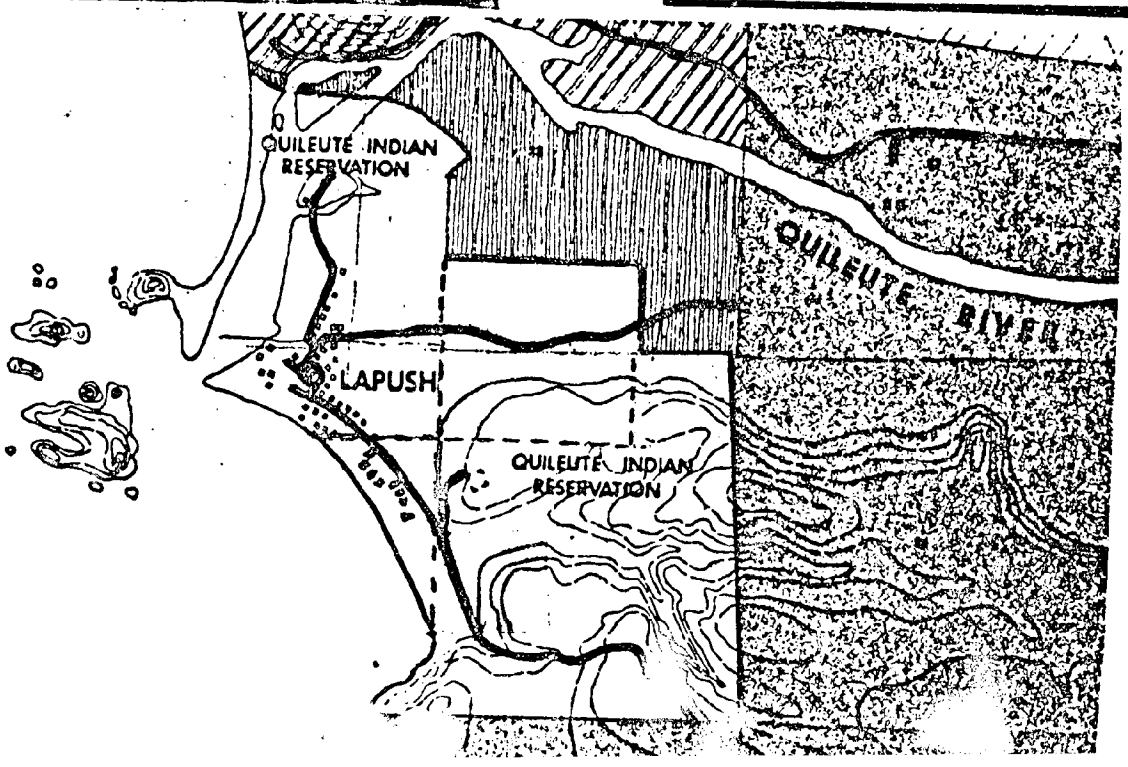
Comments: Only available by inspection in DNR offices, Olympia.
Surficial geology only - not very suitable for planning.
Aerial extent not known because did not see map.
Data can be interpreted with professional guidance of geologist.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/7

DATA SURVEY FORM

I. Variable Name Geology

II. Source Soil Conservation Service Page 3

Soil Survey, Clallam Co., 1951

III. Contact Person/
Location of Data provided by tribe

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital
( ) other

2. Scale of data: NA

3. Contour interval: NA

4. Level of detail: County-wide
(minimum geographic area)

5. Agency that generated data: SCS

6. Date data produced: 1938

7. Classifications of data:
   a. Number
   b. Listing Geology - bedrock & surficial - physiography

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

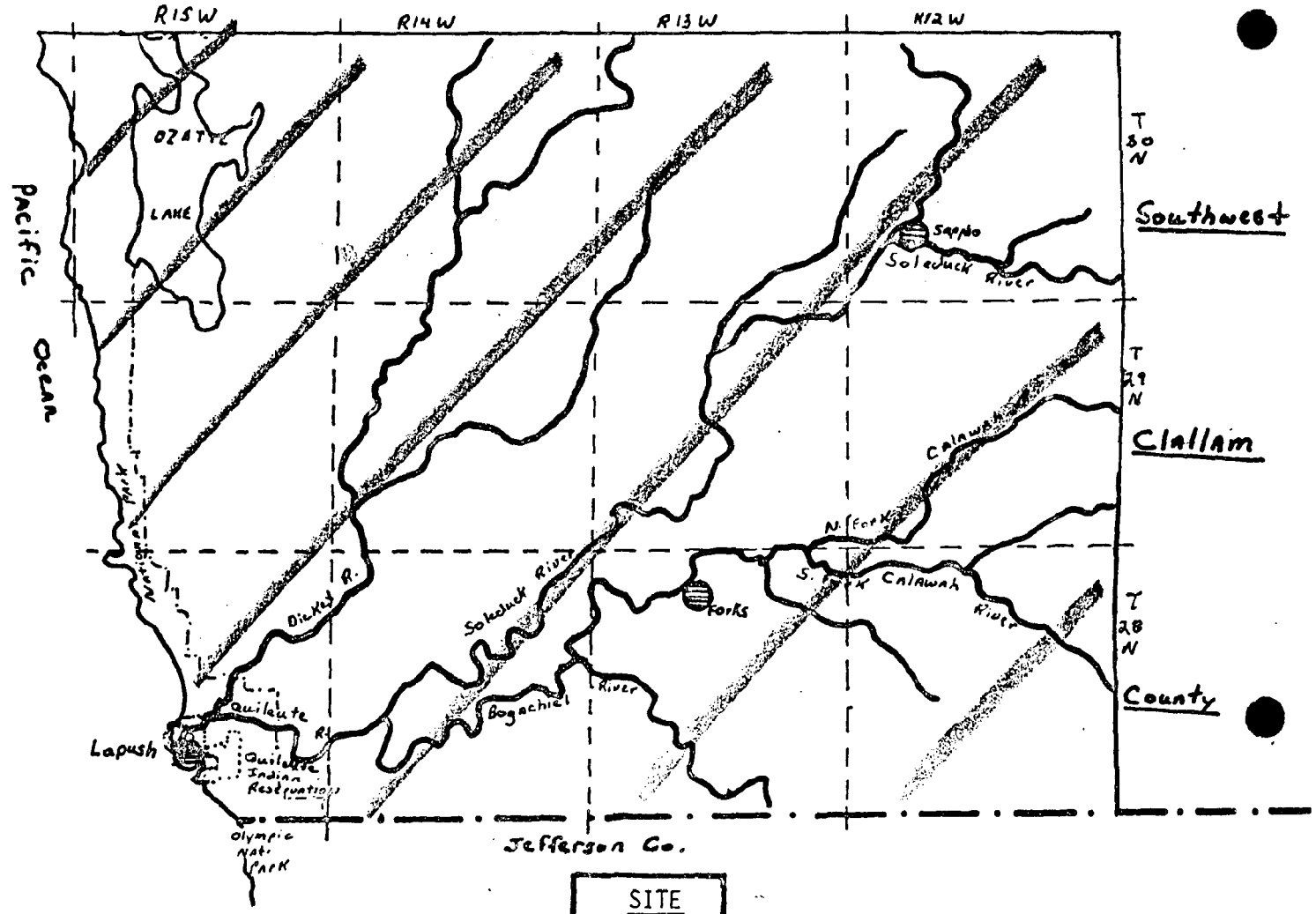
Suitability: ( ) suitable ( ) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other not mapped

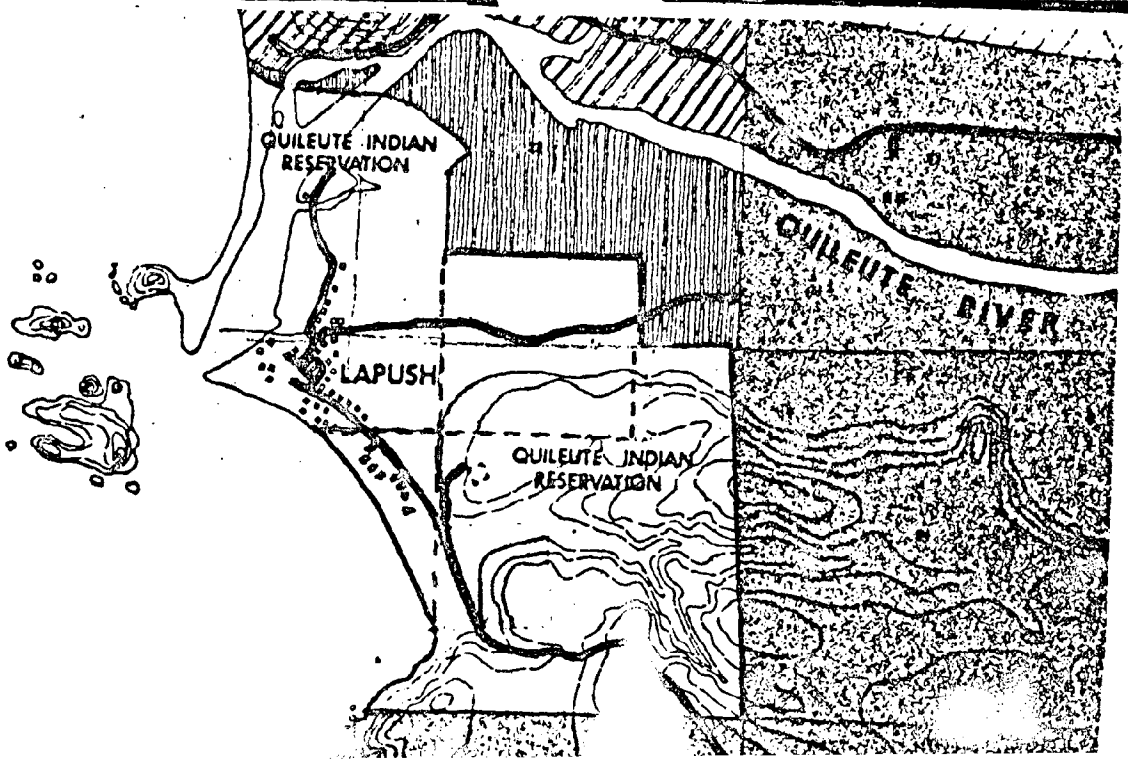
Comments: Must be verified by site-specific investigation;
General description of regional patterns; useful primarily for background data.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/3

DATA SURVEY FORM

I. Variable Name Geology

II. Source Corps of Engineers
Environmental Evaluation - Quileute
River Spit Restoration Project, 1974
Page 11

III. Contact Person/
Location of Data
provided by tribe

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital
( ) other

2. Scale of data: ?

3. Contour interval: NA

4. Level of detail: descriptive
(minimum geographic area)

5. Agency that generated data: Corps of Engineers

6. Date data produced: 1975

7. Classifications of data:
   a. Number
   b. Listing Geologic setting, littoral processes, spit formation, Quilleute bedland, south beach erosion.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

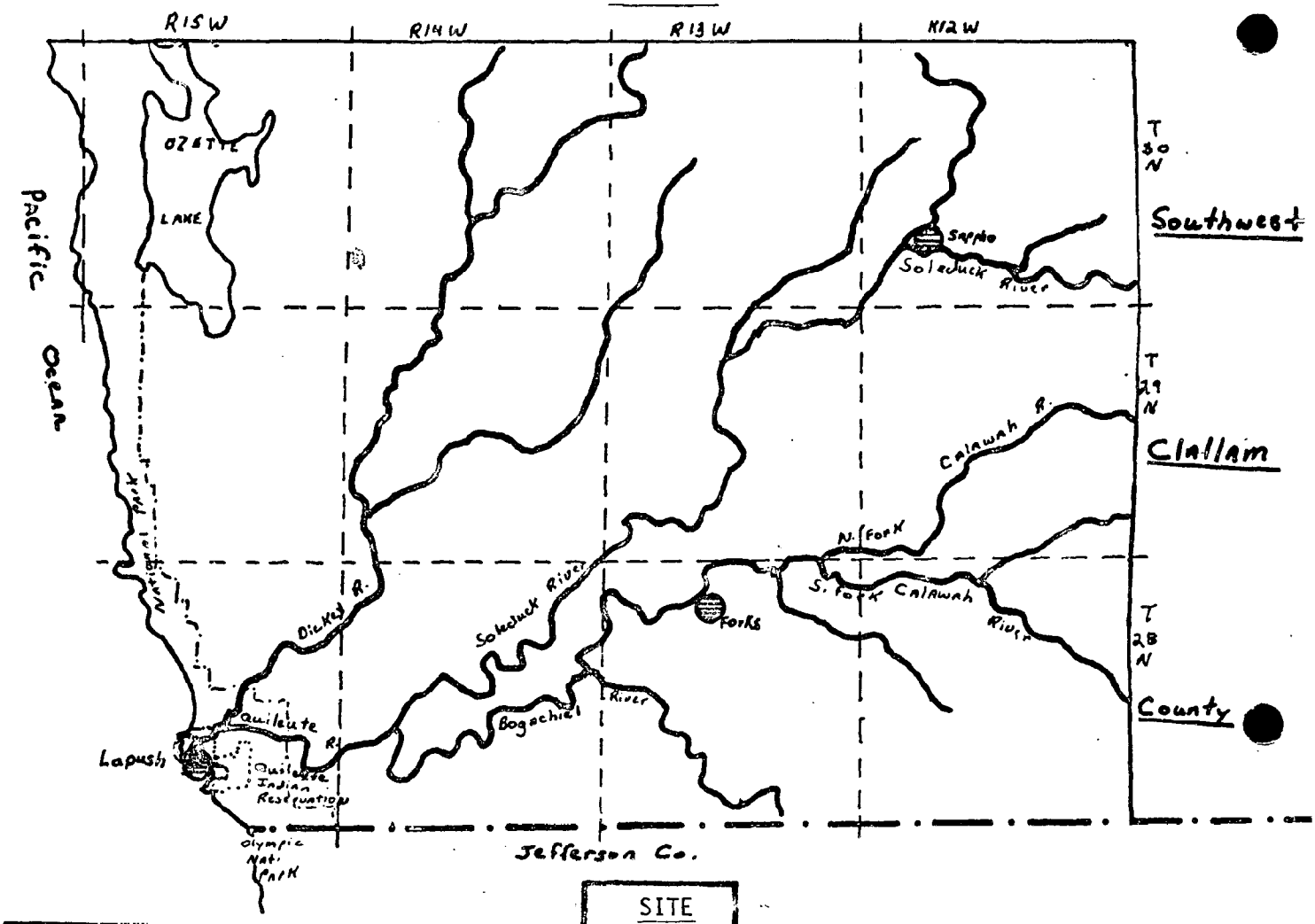
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost
(x) other not mapped.

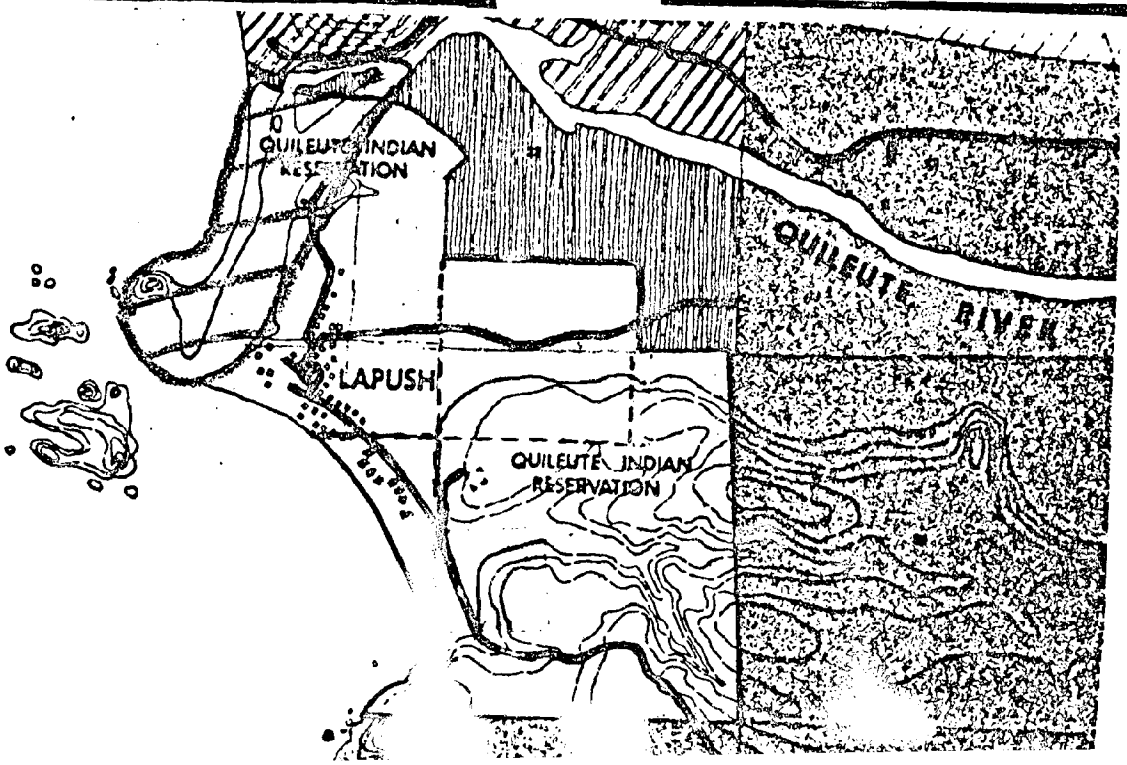
Comments: -Do not know accuracy of data.
-Can map information such as direction of drift, erosion locations, based upon text.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/14

DATA SURVEY FORM

I. Variable Name Geology

II. Source Livingston, Geologic History & Rocks and Minerals of Washington, 1967 Page 23 map; 17 text

III. Contact Person/ Location of Data NW room, Port Angeles Library

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 20 miles
3. Contour interval: NA
4. Level of detail: statewide (minimum geographic area)
5. Agency that generated data: DNR
6. Date data produced: 1965
7. Classifications of data:
   a. Number
   b. Listing Geologic Age and Rock Type, History
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

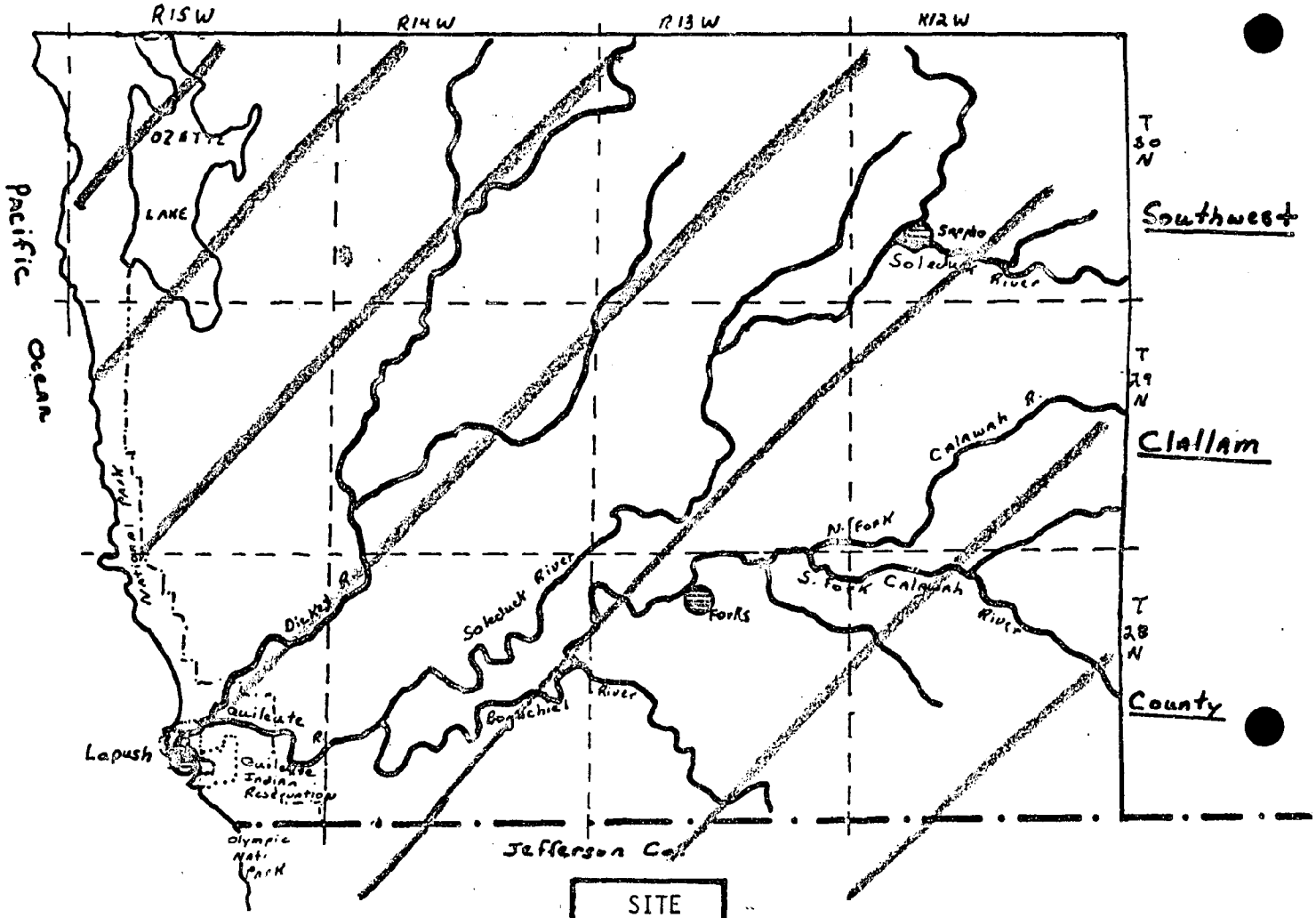
Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other

Comments: Too general for planning

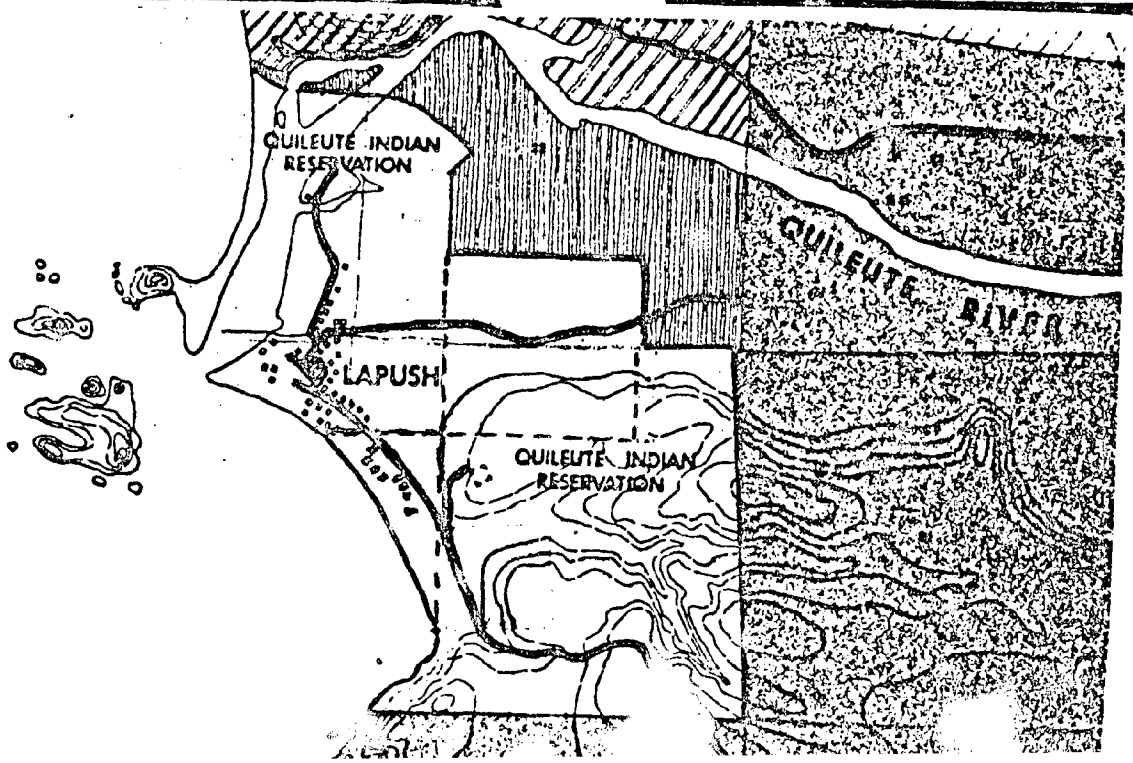
Useful background information at regional scale

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/12/78

DATA SURVEY FORM

I. Variable Name Geology

II. Source Tabor & Cady, Geologic Map of Olympic Peninsula, WA, 1978 Page

III. Contact Person/ Location of Data U.S.G.S., Reston, VA
Available at Clallam Co. SCS Office

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1:125,000
3. Contour interval: 200'
4. Level of detail: Rock limits approx. 20 acres (minimum geographic area)
5. Agency that generated data: USGS
6. Date data produced: 1978
7. Classifications of data:
   a. Number many
   b. Listing rock units; surficial & bedrock, strike & dip, faults, fossil locality
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale ( ) accuracy ( ) availability ( ) cost ( ) other

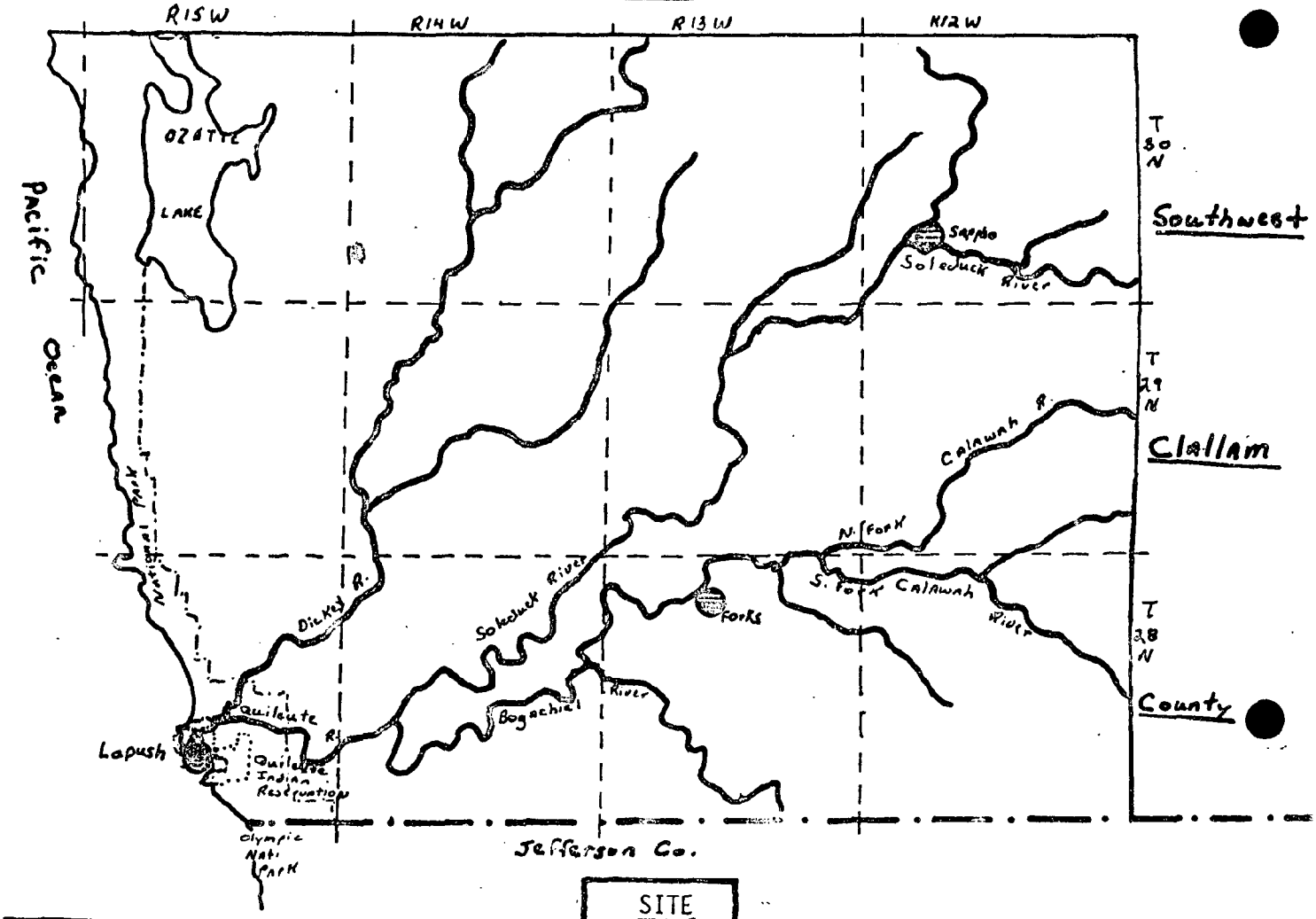
Comments: Site mostly surficial material - don't know how deep to bedrock.

Most of site is alluvium - undifferentiated.

OK for general background information, but relevance for planning in this form is questionable. Must be liberally interpreted.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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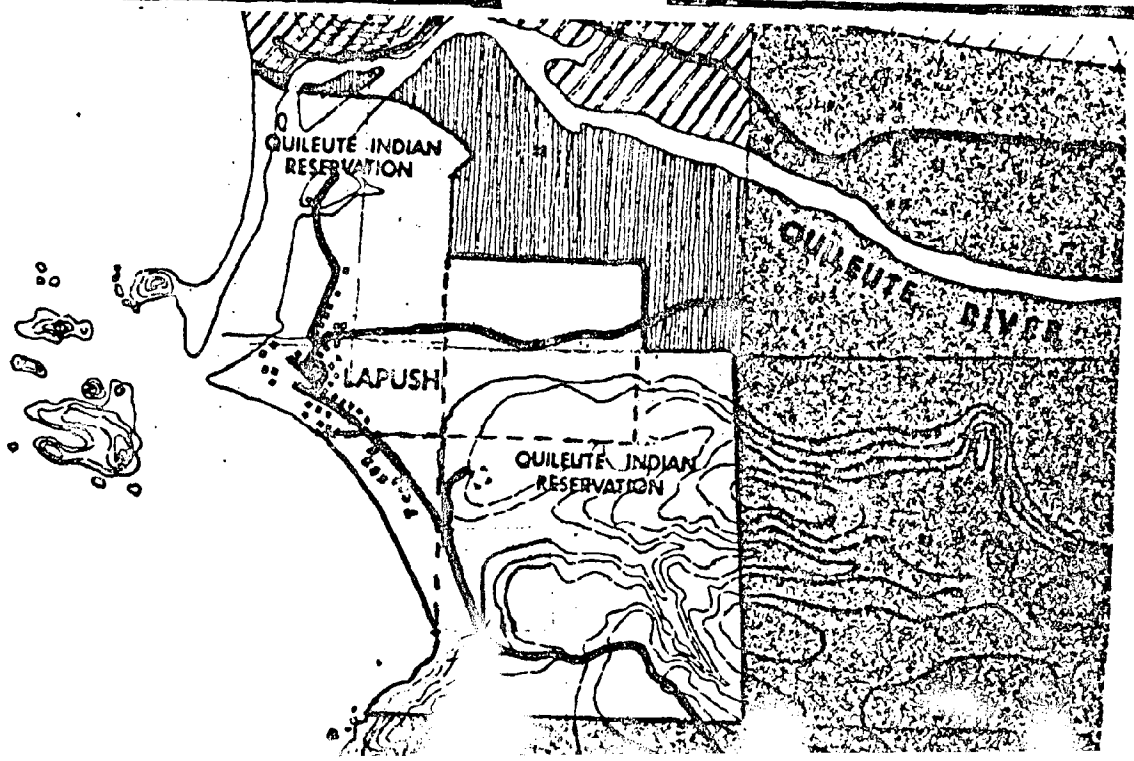


Southside
Community
Consultants

Name KG

Date 5/31

DATA SURVEY FORM

I. Variable Name Significant Geological Features

II. Source Corps of Engineers Page 6
Wash. Environmental Atlas, 1975

III. Contact Person/
Location of Data

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1:750,000

3. Contour interval: None

4. Level of detail: General
(minimum geographic area)

Agency that generated data: Corps of Engineers

6. Date data produced: 1975

7. Classifications of data:
   a. Number 15
   b. Listing Caverns, caves; rock formation, islands on site location not specified.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

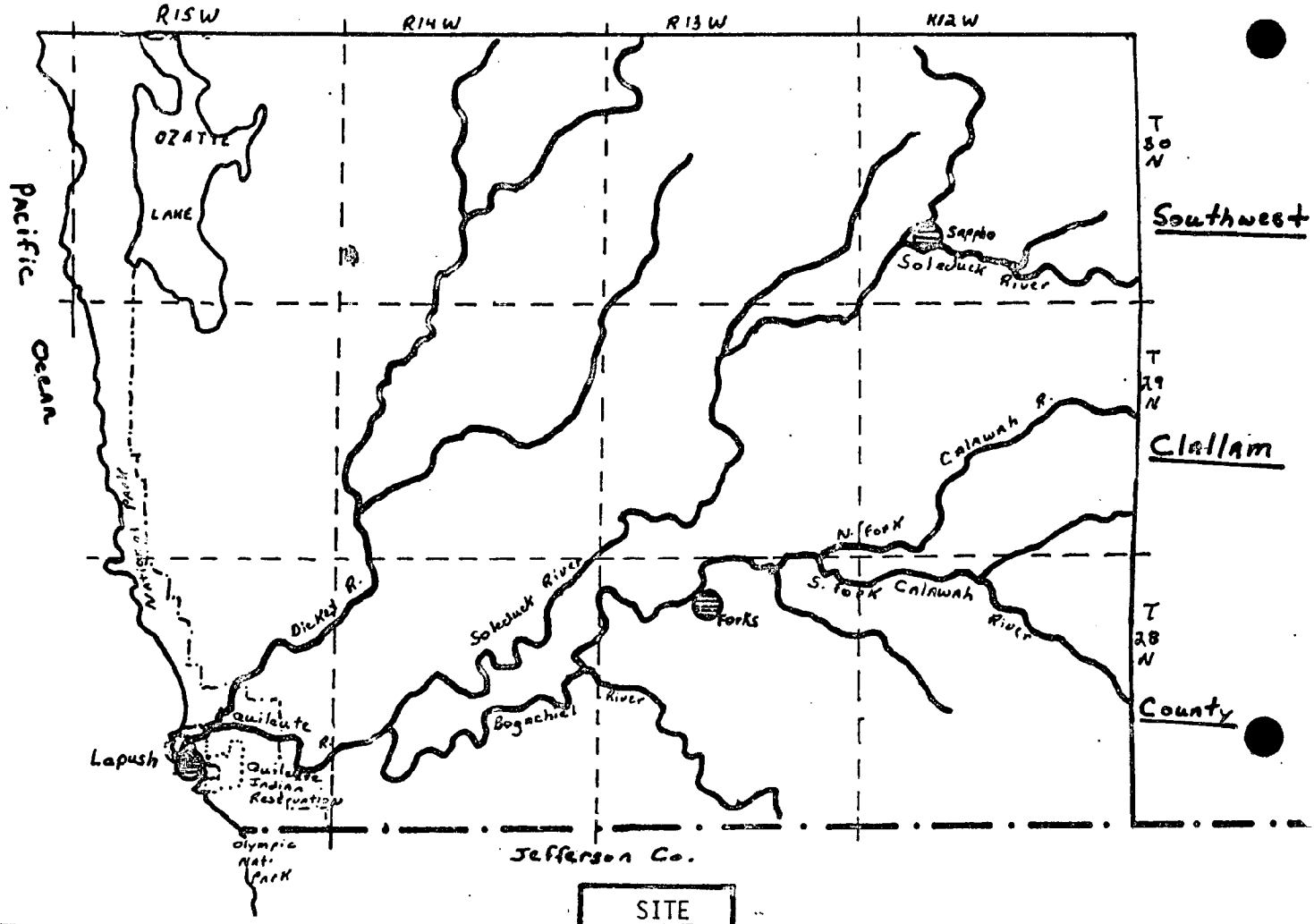
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other

Comments: OK for background information at regional scale.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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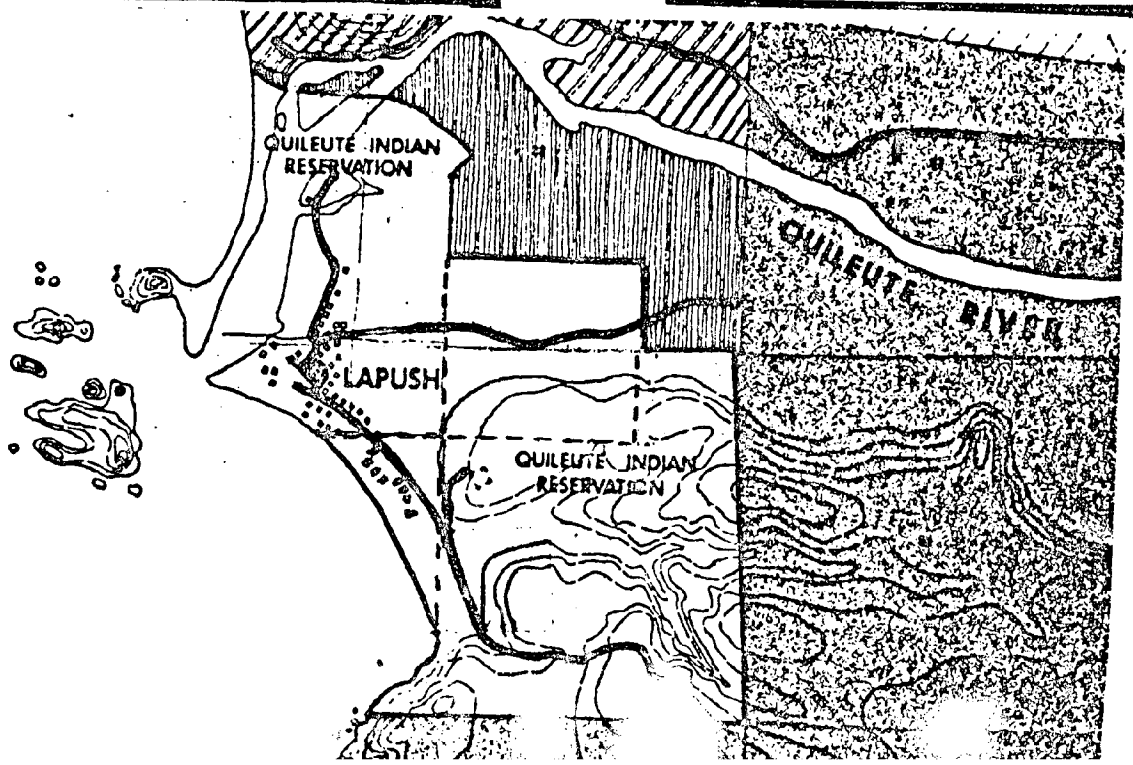


Southside
Community
Consultants

Name KG

Date 6/16/78

DATA SURVEY FORM

I. Variable Name Dredge & Dredge Disposal Plan

II. Source Corps of Engineers, "Environmental Evalutaion: Maintenance Dredging at Quillayute Navigation Channel," 1978 Page 1-7, Map p-2

III. Contact Person/ Location of Data

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 200 ft.
3. Contour interval: NA
4. Level of detail: NA (minimum geographic area)
5. Agency that generated data: Corps of Engineers
6. Date data produced: 1977
7. Classifications of data:
   a. Number 9
   b. Listing Dredging Plan & Disposal Sites
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

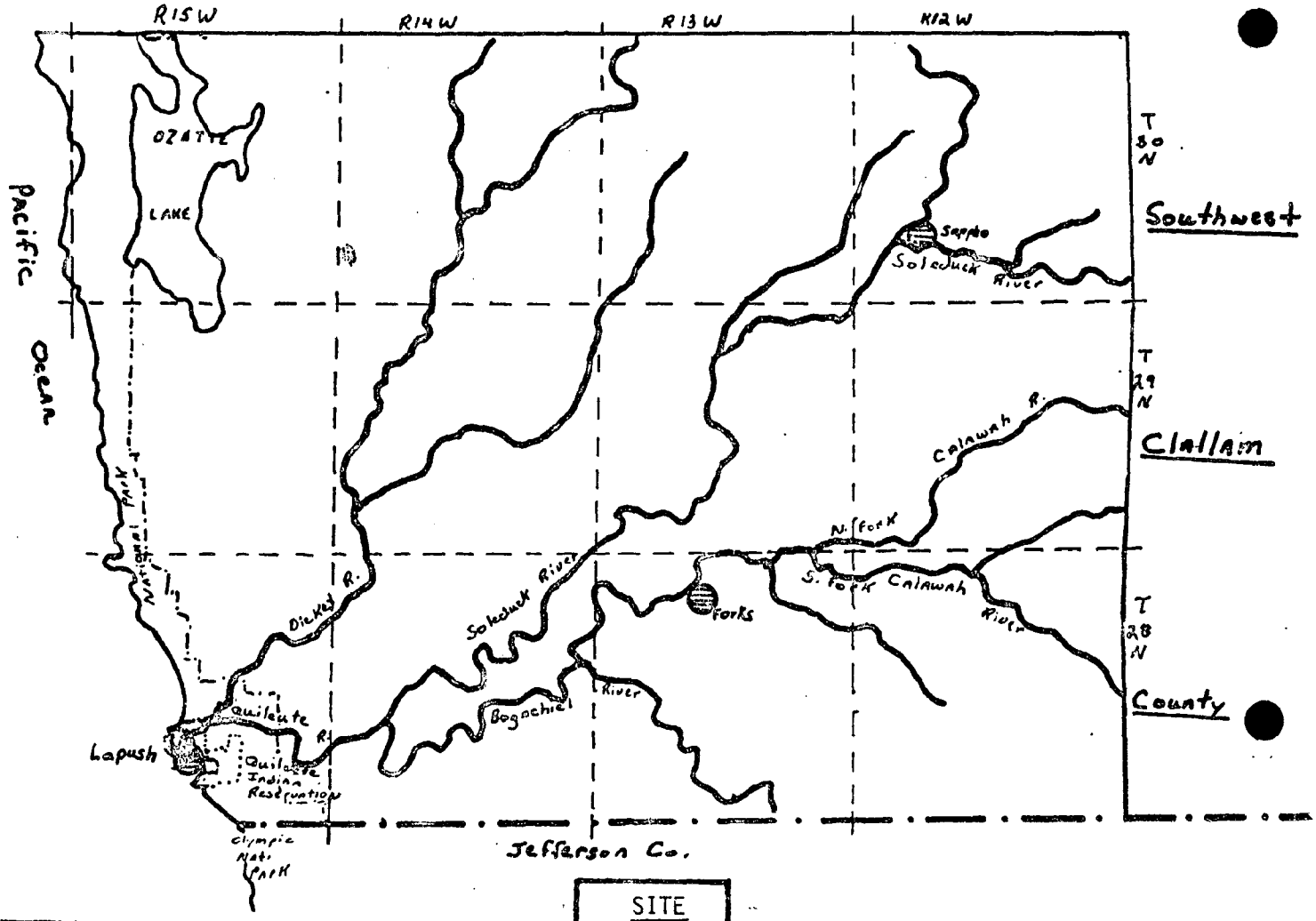
Suitability: (x) suitable ( ) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost (x) other proposal and plan in progress

Comments: Useful program information for minimizing conflict of use.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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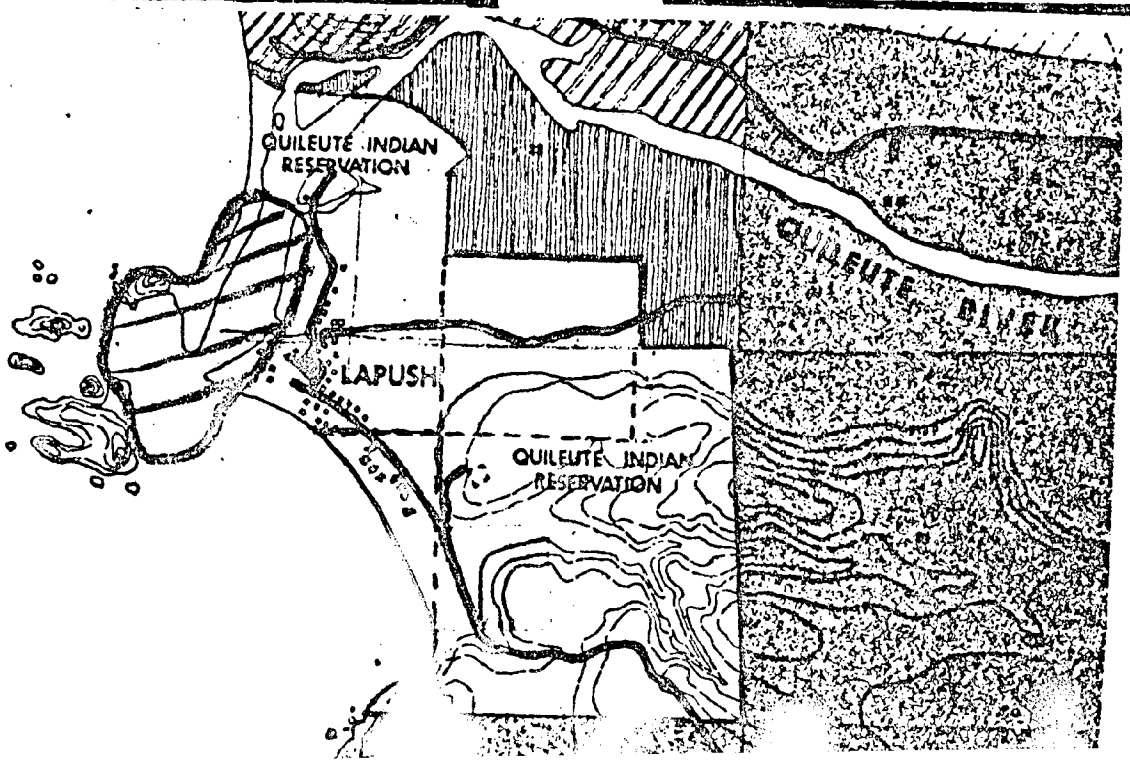


Southside
Community
Consultants

Name B. B.

Date 6=15=78

DATA SURVEY FORM

I. Variable Name Geologic Hazards

II. Source Geologic Hazards in the Coastal Zone by Jeff Parker Page 17-18
of Michael Reuf. Office of Land Programs
Land and Marine Analysis Section, Olympia, WA 98504

III. Contact Person/
Location of Data

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
(X) other matrix according to land classification divisions of coastal lands
2. Scale of data: --
3. Contour interval: --
4. Level of detail:
(minimum geographic area)
5. Agency that generated data: Dept. of Ecology, State of Washington.
6. Date data produced: May, 1977
7. Classifications of data:
   a. Number hazards related to soils, bedrock, mass-movements, ground water, flooding,
   b. Listing erosion, deposition
   each of the above hazards has 3 subhazard classifications to further detail cause-effect relations.
8. Is data available? (X) Yes ( ) No
9. Cost of data:

EVALUATION

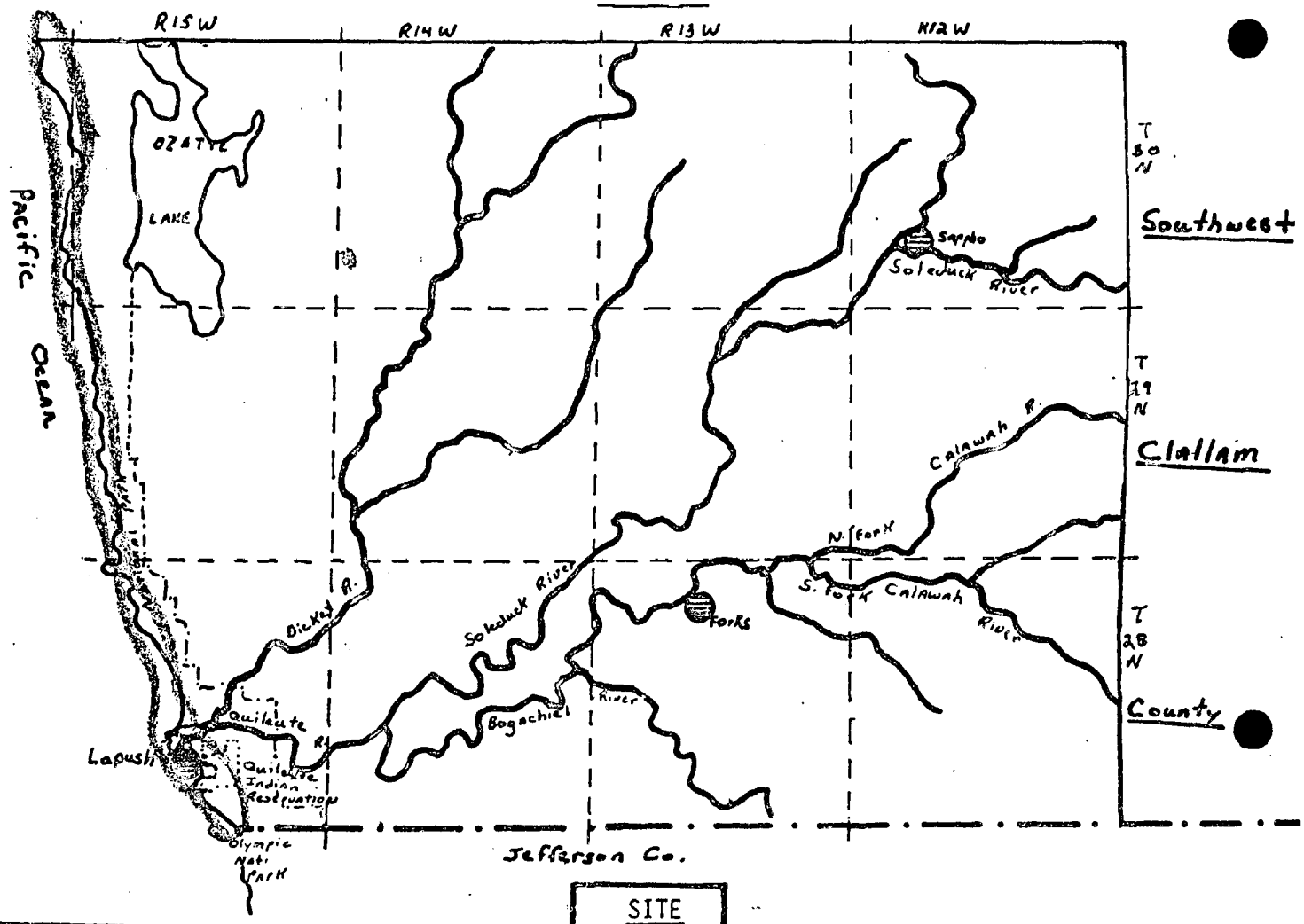
Suitability: ( ) suitable ( ) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost
( ) other

Comments: very good but no mapped information, description all within general categories of land types, useful for background data on regional scale. General framework used to identify hazards in coastal area may be useful for application during Quileute Coastal Zone Inventory.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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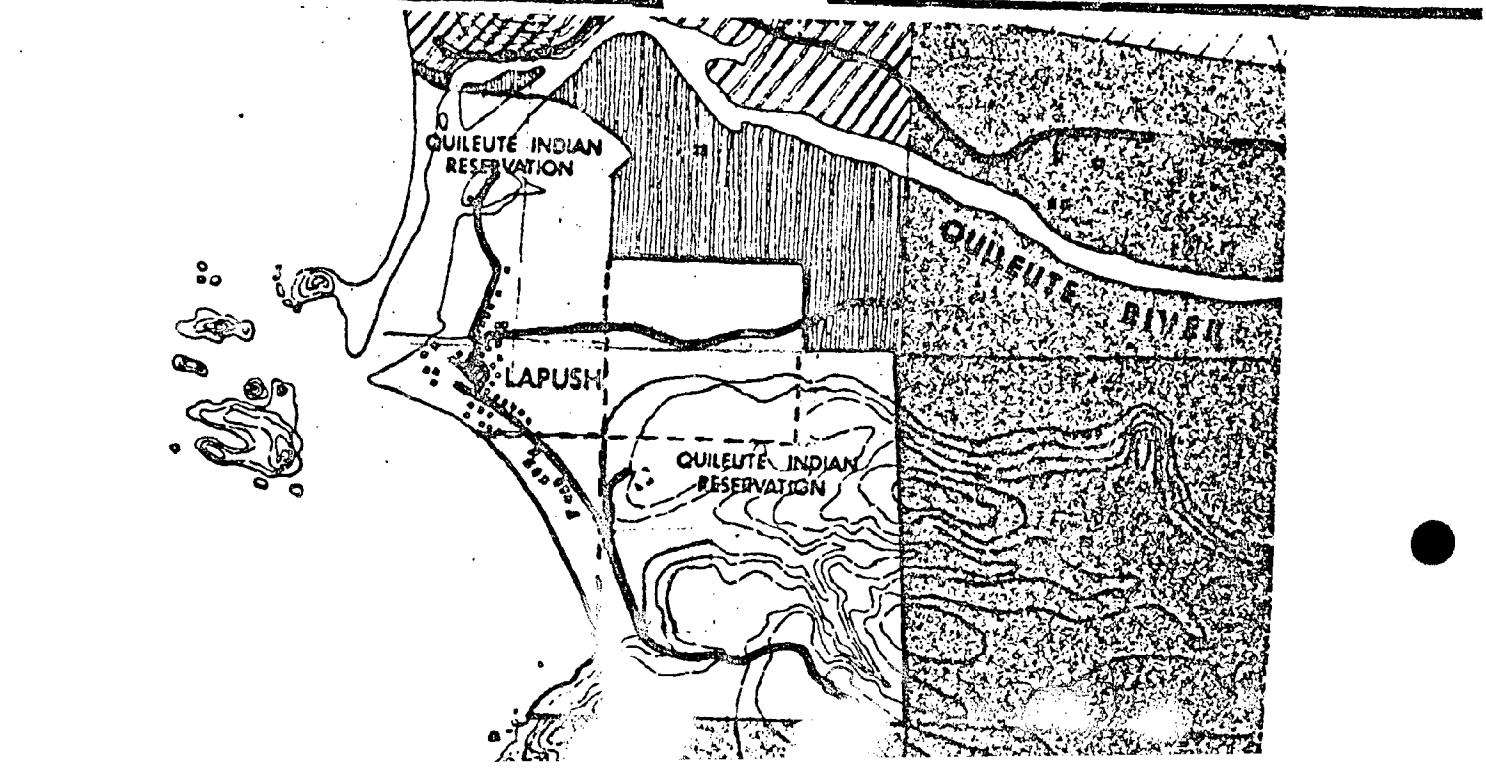


Southside
Community
Consultants

Name KG

Date 6/14/78

DATA SURVEY FORM

I. Variable Name Geology

II. Source McKee, Cascadia, 1972 Page 154-172

III. Contact Person/ Location of Data Clallam Co. Library

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital
   ( ) other
2. Scale of data:
3. Contour interval:
4. Level of detail: very general regional description
   (minimum geographic area)
5. Agency that generated data: scientific interpretation by author
6. Date data produced: composit of previous studies
7. Classifications of data:
   a. Number
   b. Listing Geology, geologic history, minerals
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

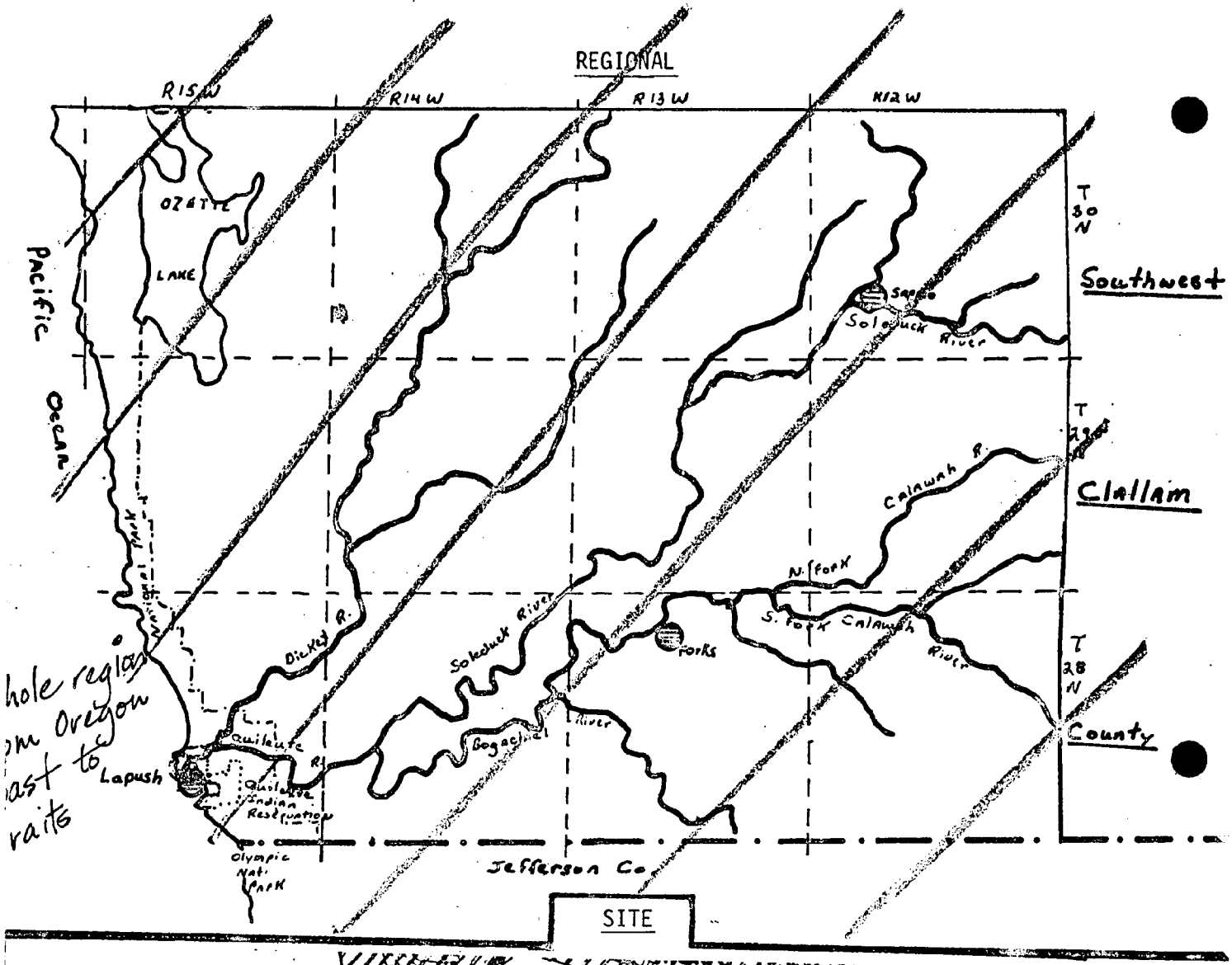
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other unmapped at sufficient level of detail.

Comments: Useful background information at regional level.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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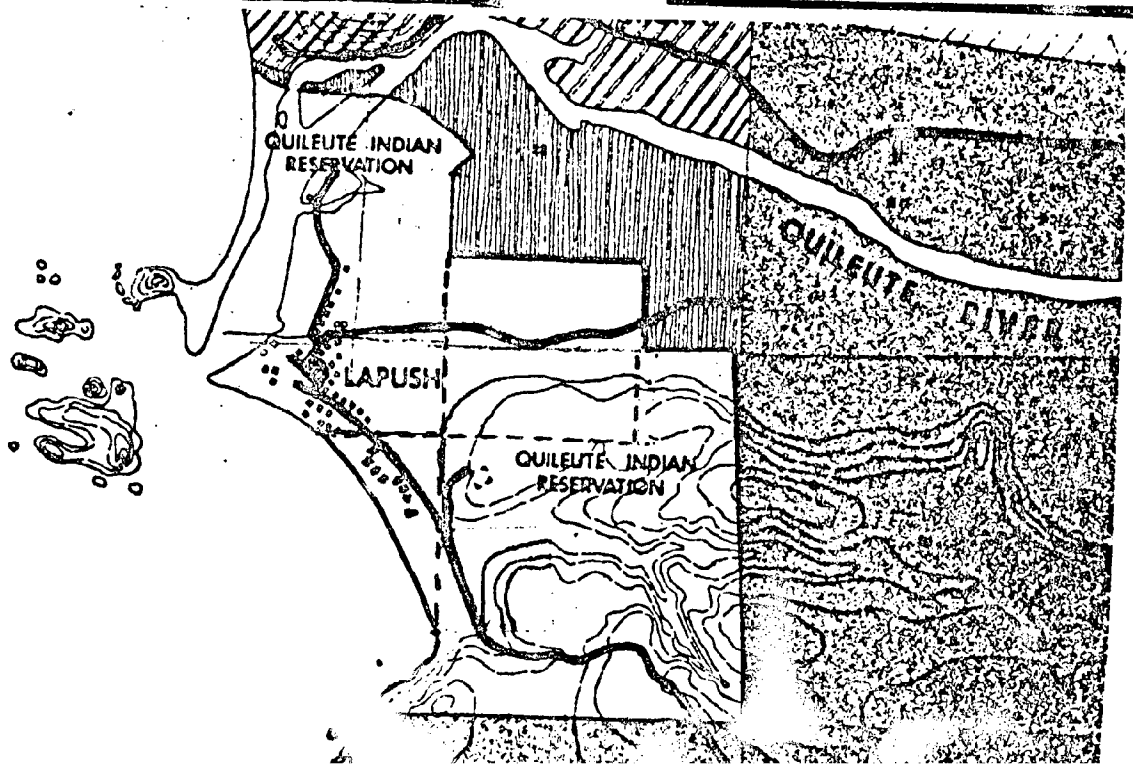


Southside
Community
Consultants

Name KG

Date 6/12

DATA SURVEY FORM

I. Variable Name Minerals

II. Source Pacific NW River Basins Commission, Comprehensive Framework Study - Summary, 1971 Page Fig. 45

III. Contact Person/ Location of Data

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 25 miles
3. Contour interval: NA
4. Level of detail: very general - symbolic representation (minimum geographic area)
5. Agency that generated data: SCS - Portland
6. Date data produced: 1970
7. Classifications of data:
   a. Number
   b. Listing Various mineral resources listed and mapped by symbol.
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

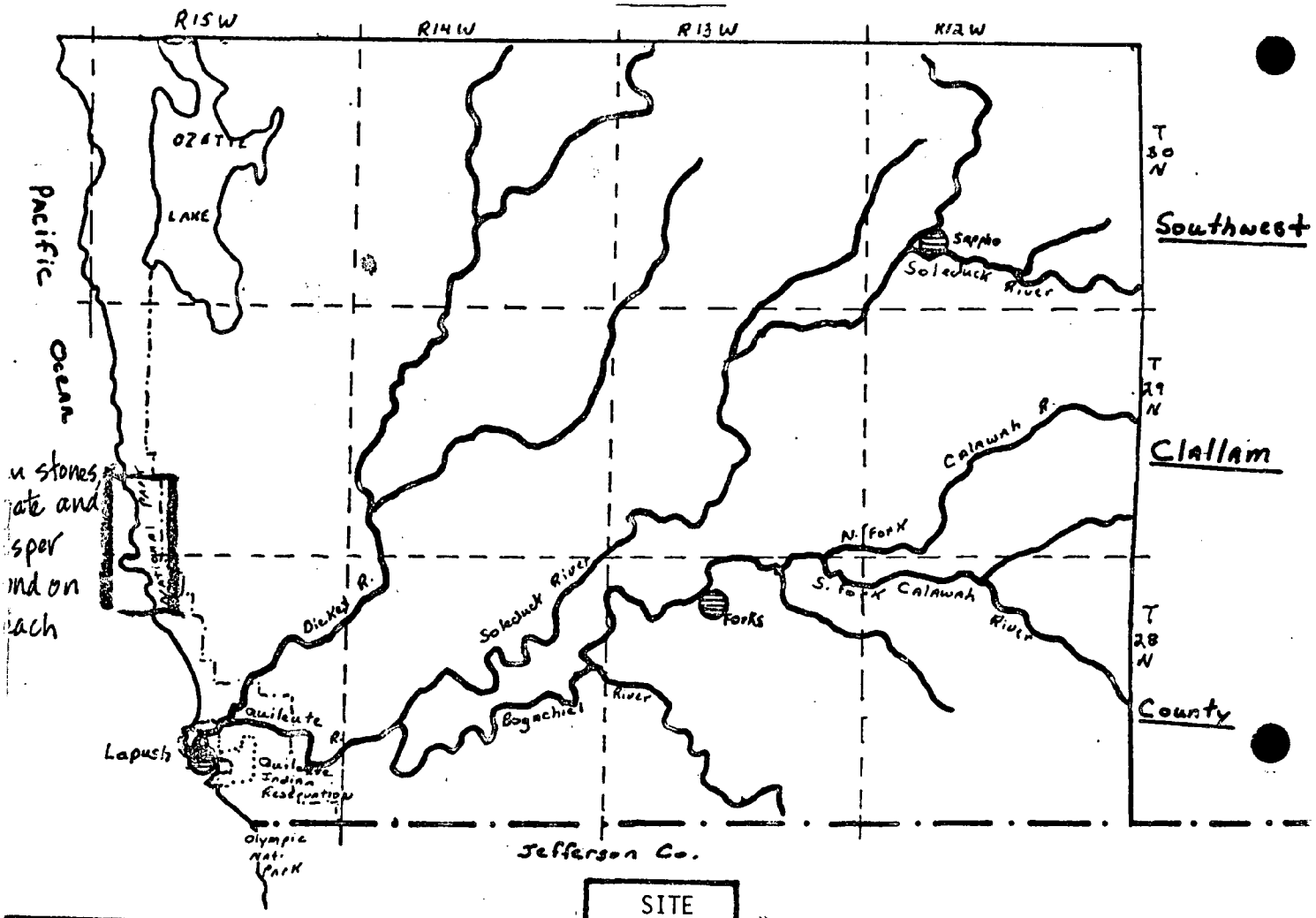
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other not mapped spatially

Comments: Useful as background for regional scale only.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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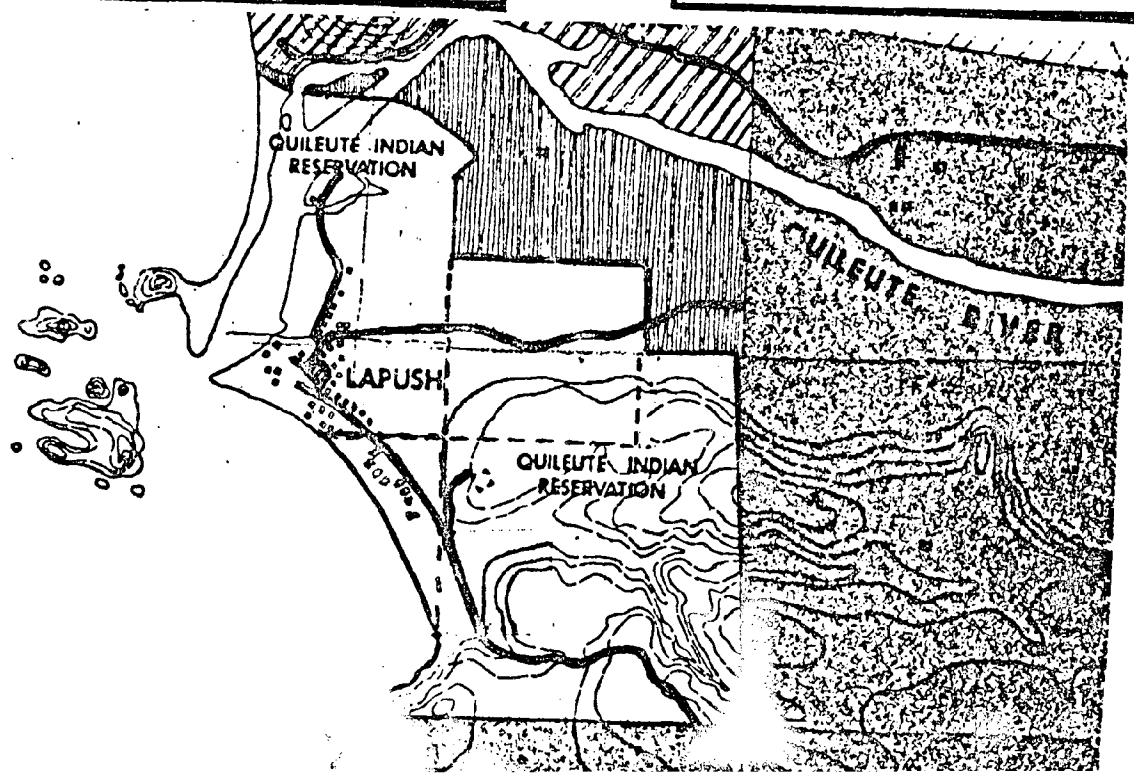


Southside
Community
Consultants

Name KG

Date 6/12

DATA SURVEY FORM

I. Variable Name Aquifer Units

II. Source Pacific NW River Basin Commission, Comprehensive Framework Study, Appendix V, 1971 Page Figure 771

III. Contact Person/ Location of Data WWU Library (WESTERN WASHINGTON UNIVERSITY)

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 25 miles
3. Contour interval: NA
4. Level of detail: (minimum geographic area) regional
5. Agency that generated data: ?
6. Date data produced: 1968
7. Classifications of data:
   a. Number 10
   b. Listing Geologic formations and descriptive interpretations of water yield; porosity, permeability, quality
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

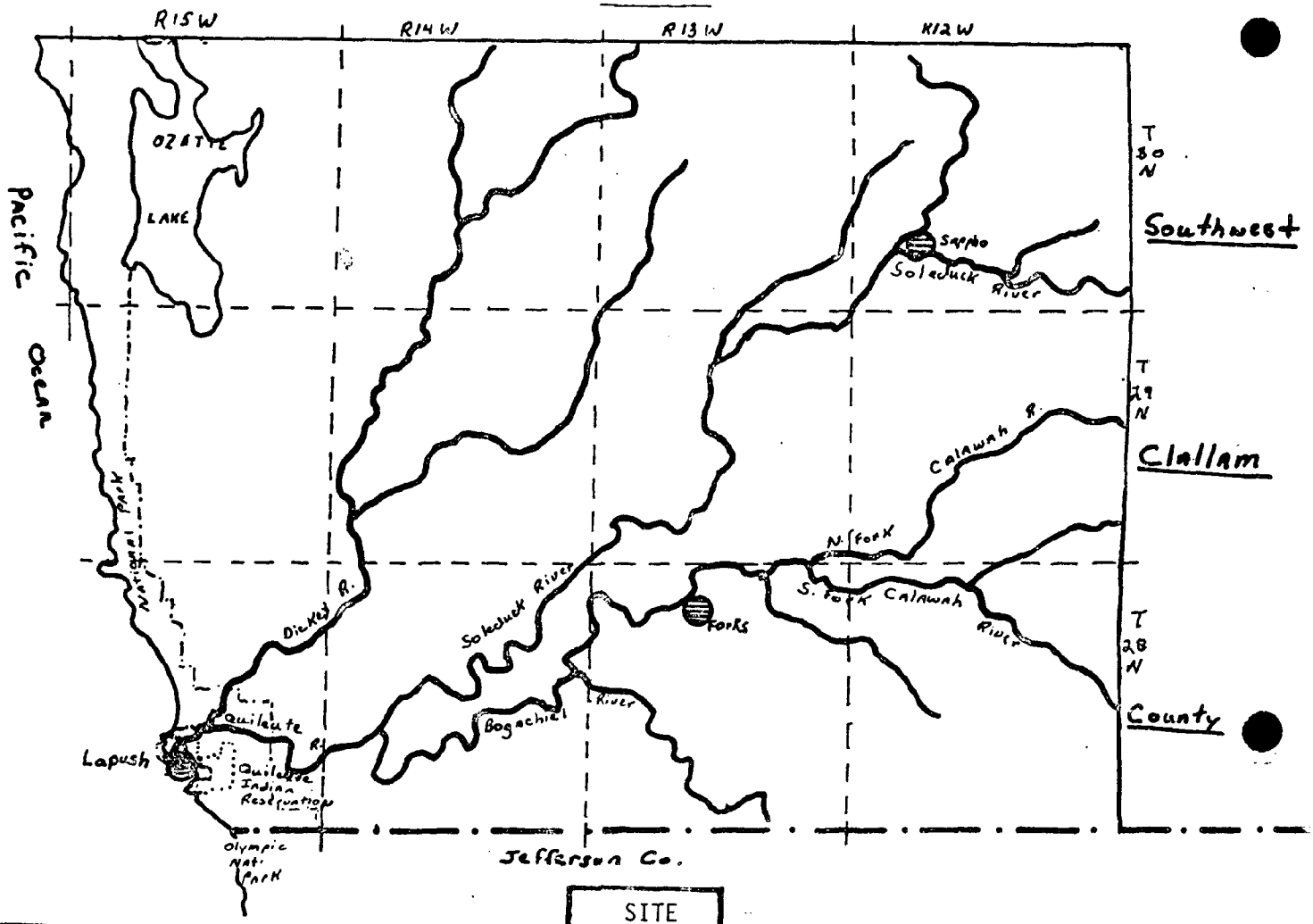
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other

Comments: Very general information. Gives high to low range for features. May be suitable if no better on-site data is available, but better for regional analysis.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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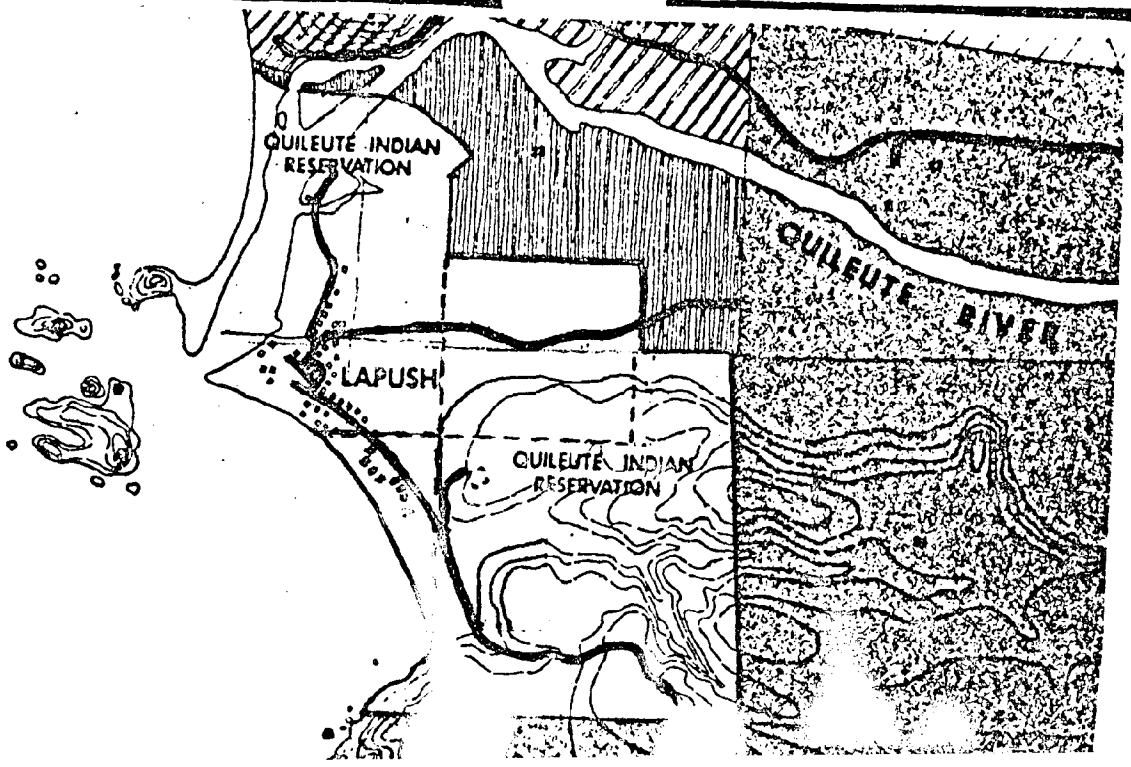


Southside
Community
Consultants

Name KG

Date 6/12

DATA SURVEY FORM

I. Variable Name Well Yield

II. Source Pacific NW River Basin Commission Page Fig. 772
Comprehensive Framework Study,
Appendix V, 1970

III. Contact Person/
Location of Data
WWU Library (WESTERN WASHINGTON UNIVERSITY)

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1" = 25 miles

3. Contour interval: NA

4. Level of detail: Approx. 600 acres (unit size)
(minimum geographic area)

5. Agency that generated data: ?

6. Date data produced: 1968

7. Classifications of data:
   a. Number 6
   b. Listing flow quantity of water normally available from wells.
   Scale 1 - 2000 gal./min. (flow quantity mapped nearest LaPush at 20-100 gals/minute).

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other

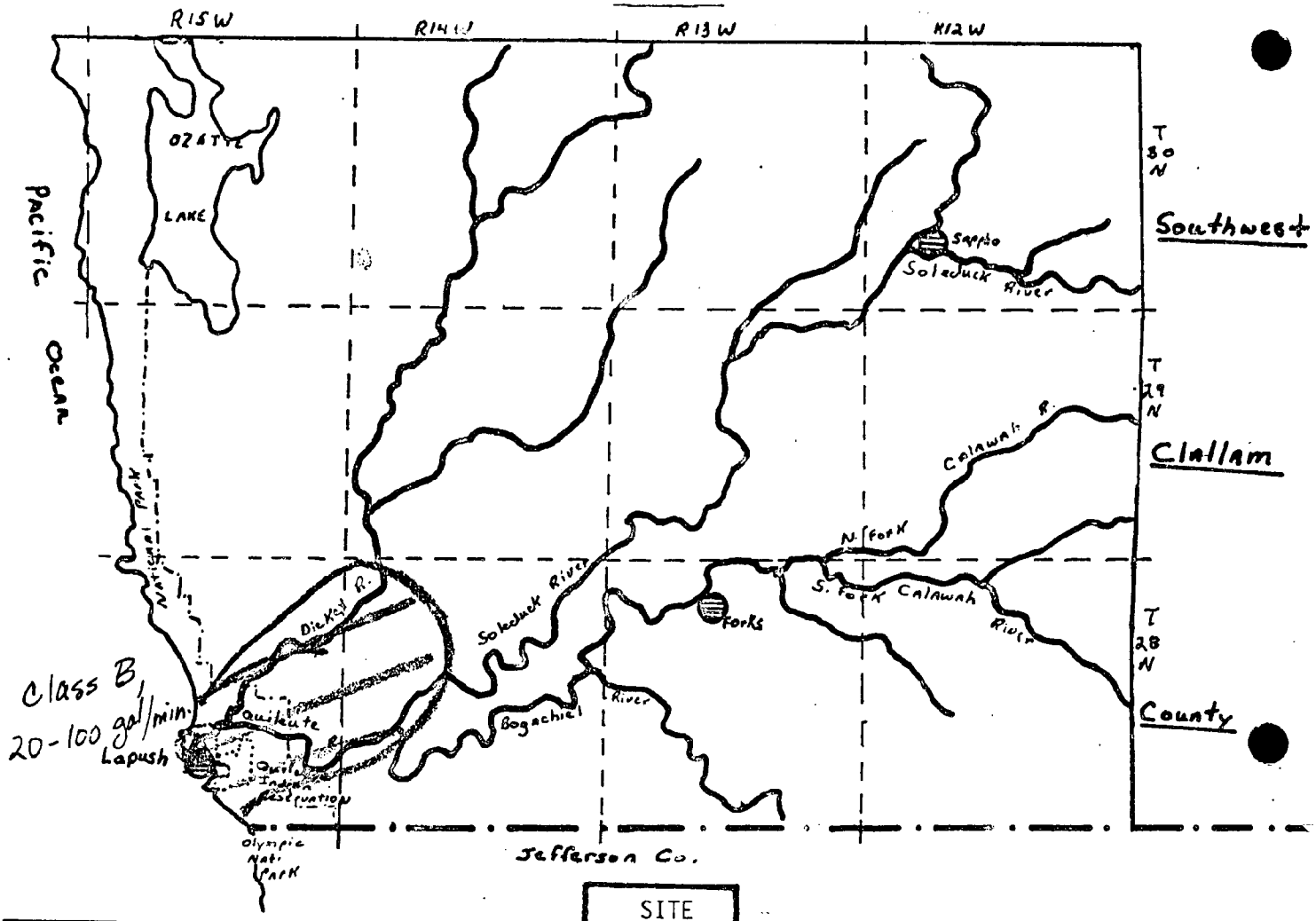
Comments: Source not specified;

Acceptable if no better details available;

More suitable for regional analysis.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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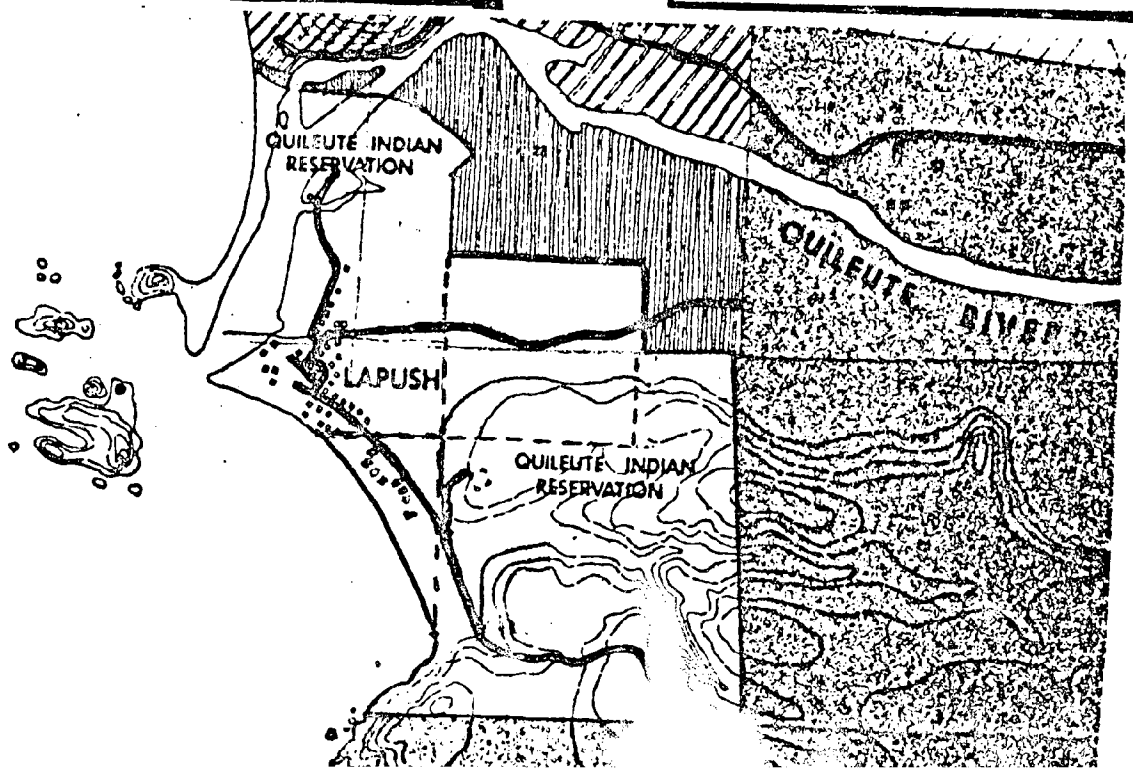


Southside
Community
Consultants

Name KG

Date 6/7

DATA SURVEY FORM

I. Variable Name Sediment Characteristics

II. Source Dept. of Natural Resources Page 20

Wash. Marine Atlas, 1974

III. Contact Person/ Location of Data WWU Main Library (WESTERN WASHINGTON UNIVERSITY)

Available from Dept. of Natural Resources, Olympia

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 5 miles
3. Contour interval: NA
4. Level of detail: very general (minimum geographic area)
   Agency that generated data: DNR
6. Date data produced: 1969?
7. Classifications of data:
   a. Number 4
   b. Listing Rock, sand, mixed gravel
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

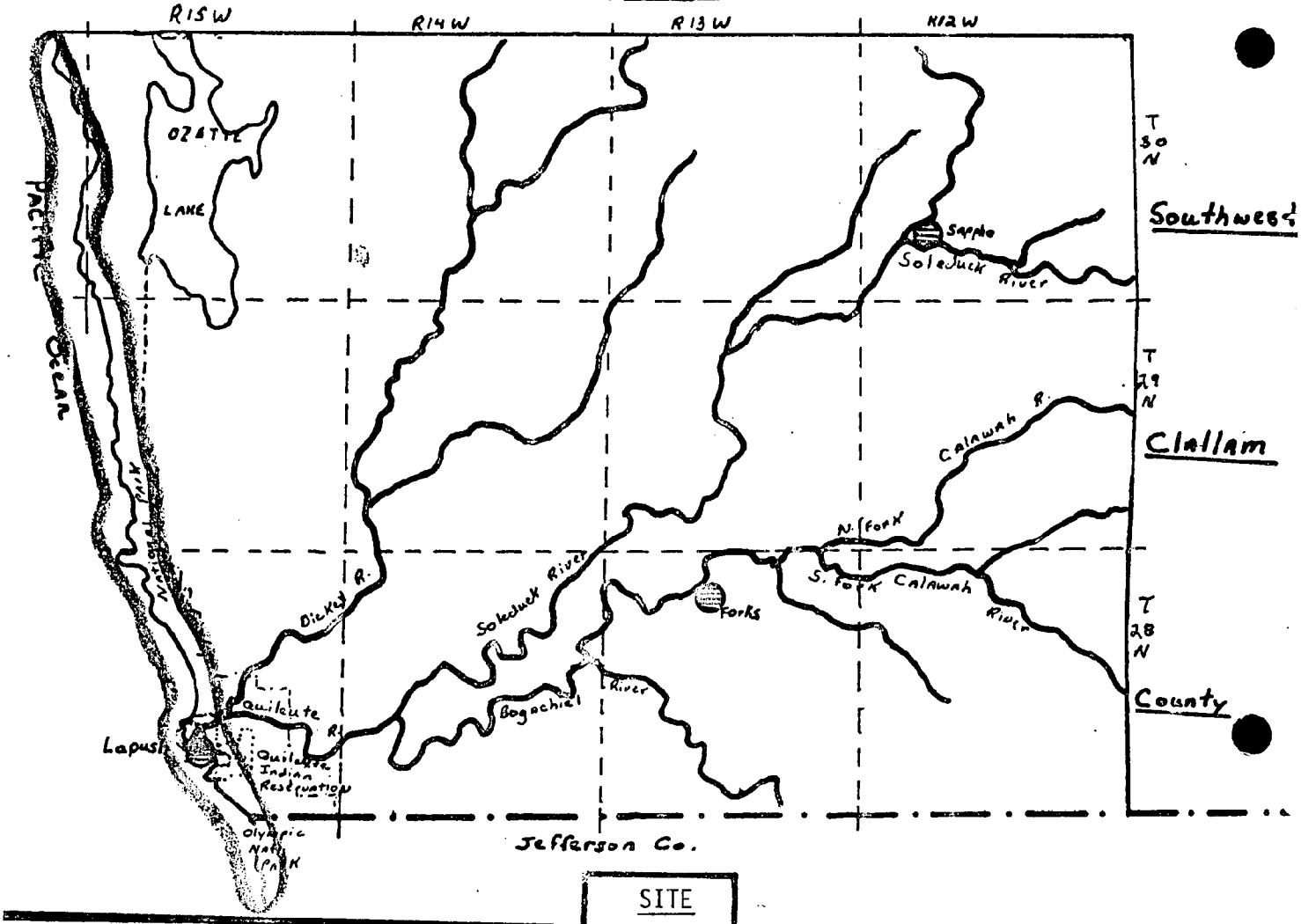
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other

Comments:
-Very generalized treatment; should be field checked.
-Could be mapped if no other data available.
-Better at regional scale than site.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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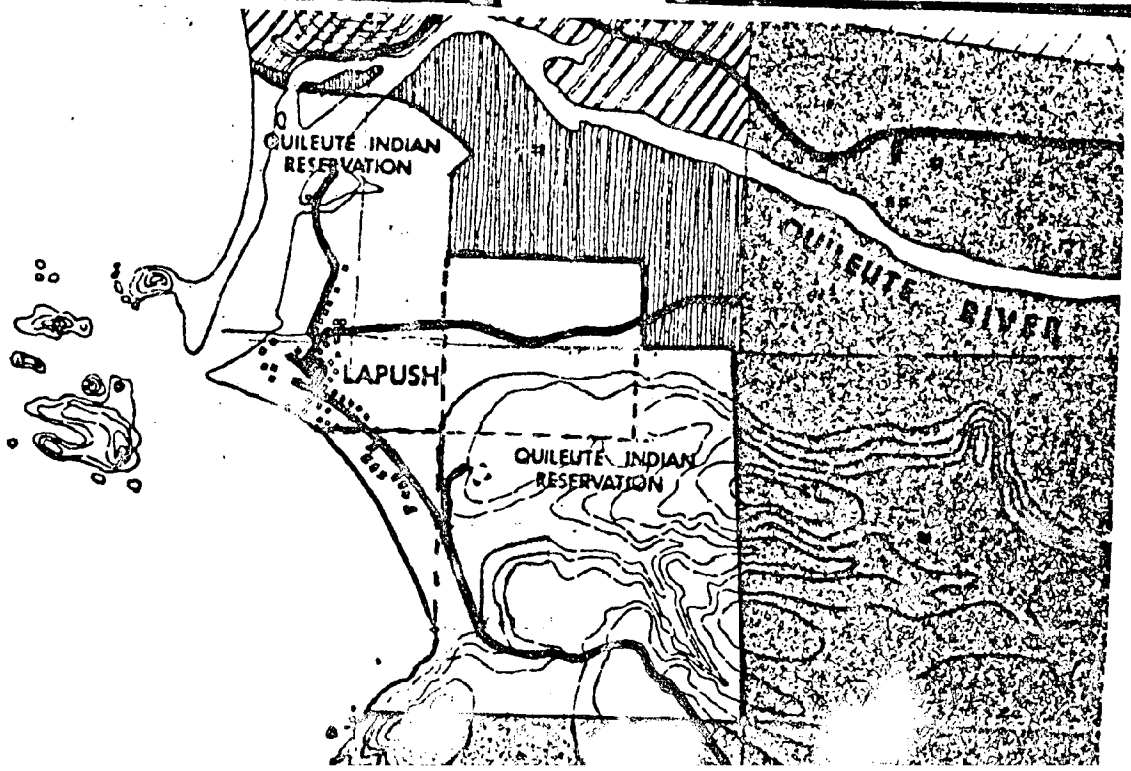


Southside
Community
Consultants

Name KG

Date 5/31/78

DATA SURVEY FORM

I. Variable Name Soils

II. Source People Space Architecture Page 13

Planning Document I, 1973

III. Contact Person/
Location of Data

provided by tribe

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text (x) tabular ( ) digital
( ) other

2. Scale of data: 1" = 2 miles

3. Contour interval: NA

4. Level of detail: general - soil type 40 acres
(minimum geographic area)

Agency that generated data: SCS

6. Date data produced: 1931 document 1938 survey

7. Classifications of data:

a. Number 10

b. Listing soil types

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

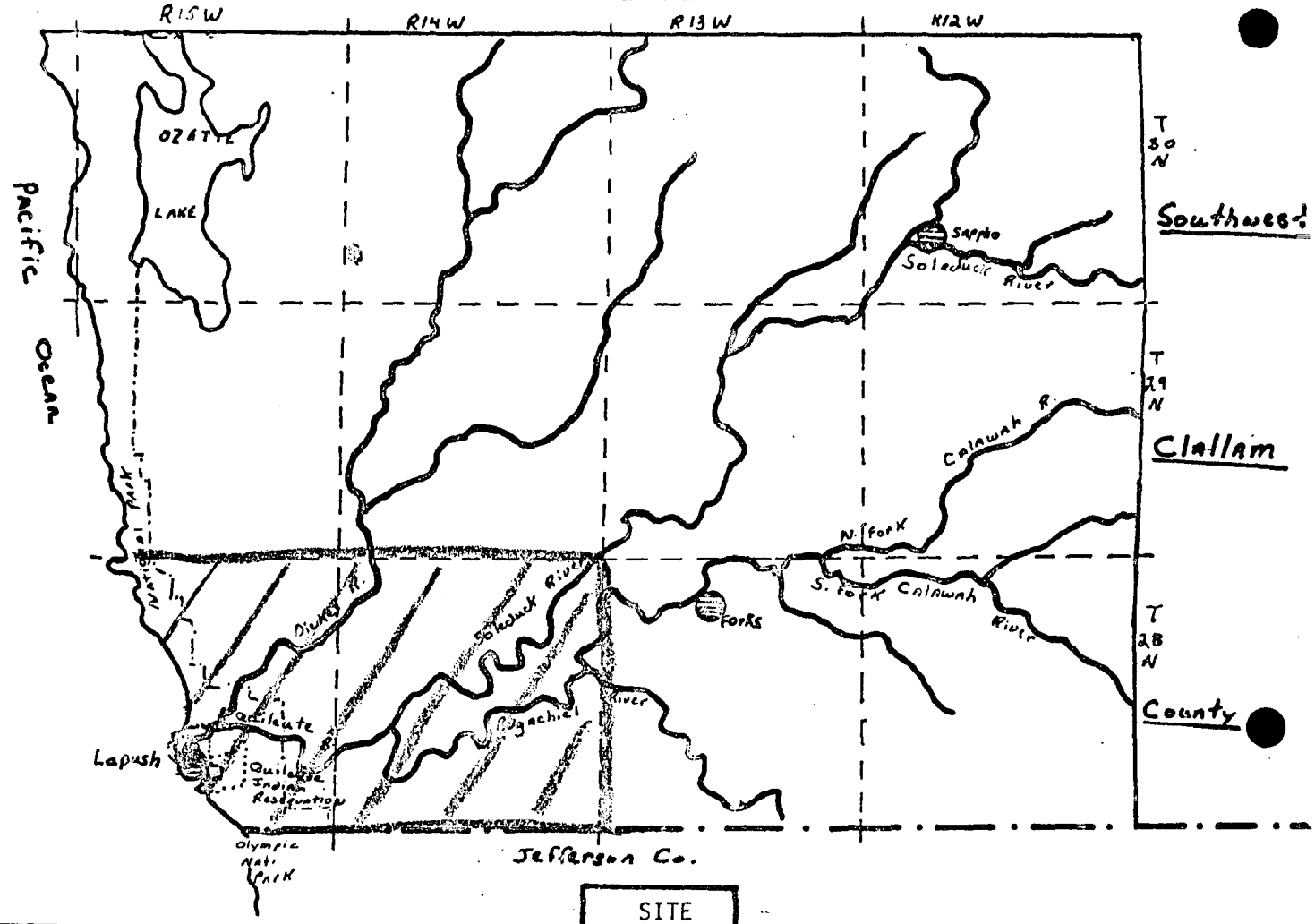
Limitations: (x) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other

Comments: Very general survey for an area as small as the reservation - includes interpretive table of physiographic position, relief, native cover, drainage, color, fertility, and use suitability.

Soil types by interpretation can imply land suitability and hazard.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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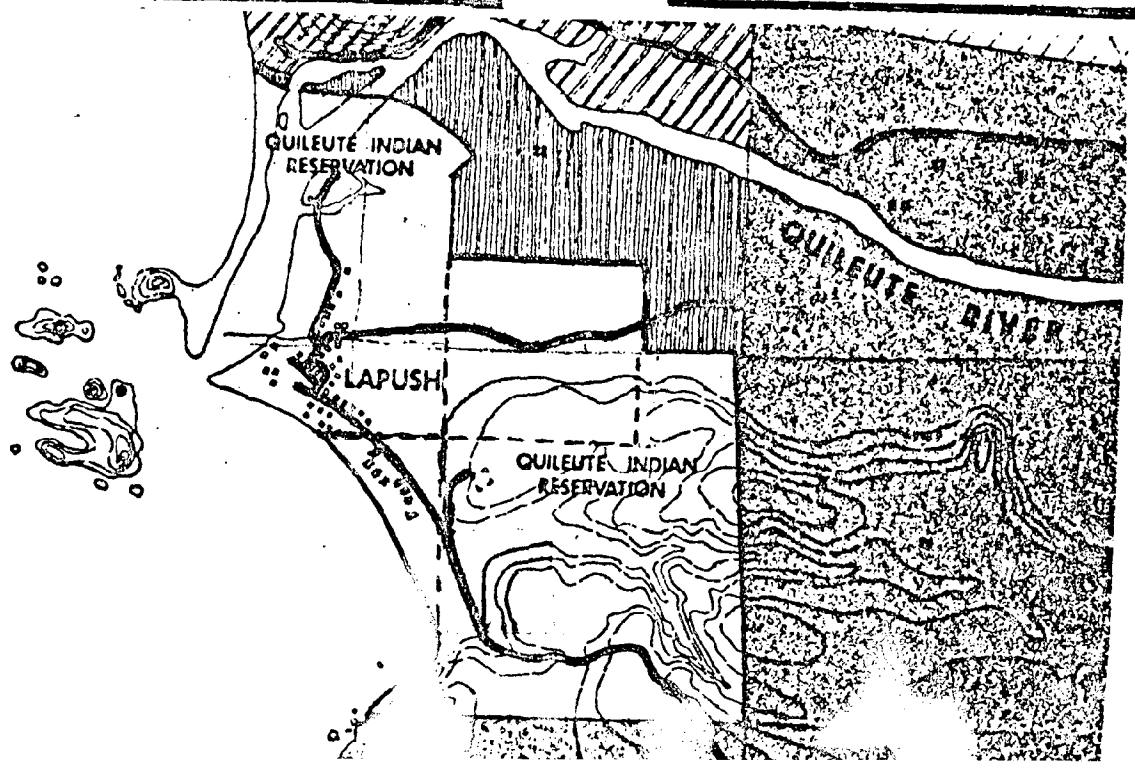


COMPLETION REPORT

Contract No. 78-092 between the Quileute Indian Tribe and the Department of Ecology

"Collection of data for development of a Coastal Zone Management Plan for the Quileute Reservation"

4/17/78 to 9/30/78

September 1978

Title: Environmental Inventory Data Analysis for Land Use Planning

Author: Southside Community Consultants,
Brandow, Robert

Subject: Suitability of data for land use planning on Quileute Reservation

Date: September 1978

Department: Department of Ecology & Quileute Planning Department

Copies: Available through: Quileute Planning, Quileute Indian Tribe
P.O. Box 219, LaPush, Wn. 98350

Project Number: 78-092

Series Number:

Number of Pages: 158 pages (Part I - 63, Appendix - 95)

Abstract: Part I of this report divides environmental data into Natural Resources, Natural Hazards & Limitations and Sensitive/Unique Areas. Data is further broken down into "topics", e.g. soils, fisheries, forestry, culturally unique areas, etc. A description or definition of each topic is provided, as well as the corresponding information required for land use planning and an explanation of how the information is used in planning. Sources of information and its availability are also noted. Existing bio-physical data on the Quileute Reservation is catalogued in Appendix B of this report which covers maps of the Reservation, elements of the natural environment - such as climate, soils, geology - and elements of the cultural environment including traffic circulation, land ownership, archaeological sites, etc. The information is provided on "data survey forms" which indicate data format, scale, date of production, agency involvement and an evaluation of suitability and limitations of the data in terms of the Quileute coastal zone management project.

1. (a) Summary Account

The Quileute Tribal Council contracted with environmental planners to assist the Tribe in planning for protection and logical land use of the Reservation's coastal area. During FY 78 information on the Quileute environs was gathered, inventoried and analyzed in terms of suitability for necessary land use planning. The original intent of the Quileute project was the development of a preliminary management plan for the coastal area. However, it was the opinion of the consulting planners that available data was not sufficient or of the quality necessary for a land use/coastal management plan. To assist the Tribal Council in preparing for a preliminary plan 14 areas of data gaps were iden tified. Fundamental areas of concern were 1) the production of a base map suitable for reservation wide planning 2) geological data and 3) soils information. Methods for gathering and producing these elements of land use planning and environmental assessment were provided in written form to the Tribal Council as part of the attached "Environmental Data Inventory Analysis for Land Use Planning". This document also contains a listing and analysis of all bio-physical information presently avialble on the Quileute Reservation. It is prepared in the form of a catalogue or atlas. The study and consulting services provided as a part of this contract have been useful to the Tribe in establishing direction for continued work in coastal zone management planning.

(b) Reports, Maps, Plans, Exhibits, Etc.

"Environmental Data Inventory Analysis for Land Use Planning" was produced as a report for the Quileute Tribal Council. There is no intent of publication.

(c) Abstract

An abstract has been included on the first page after the cover of the completion report.

2. Five copies of the Quileute Project report are attached.

3. Graphic Record Alternative: N/A

Southside
Community
Consultants

Name KG

Date 6/12/78

DATA SURVEY FORM

I. Variable Name Soil

II. Source Pacific NW River Basin Commission, Page 308-311
Comprehensive Framework Study, Appendix IV, 1971

III. Contact Person/ Location of Data WWU Library (WESTERN WASHINGTON UNIVERSITY)

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text (x) tabular ( ) digital
( ) other

2. Scale of data: 1" = 25 miles (approx.)

3. Contour interval: NA

4. Level of detail: Approx. 200 acres
(minimum geographic area)

5. Agency that generated data: SCS, Portland Office

6. Date data produced: 1970

7. Classifications of data:
   a. Number 45
   b. Listing Soil Associations and soil interpretations, i.e, engineering, agriculture, forestry for each association and series, elevation, major land uses, landscape position, parent material, texture, profile, permeability, drainage class, capability class, major soil problems, suitable land treatment.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

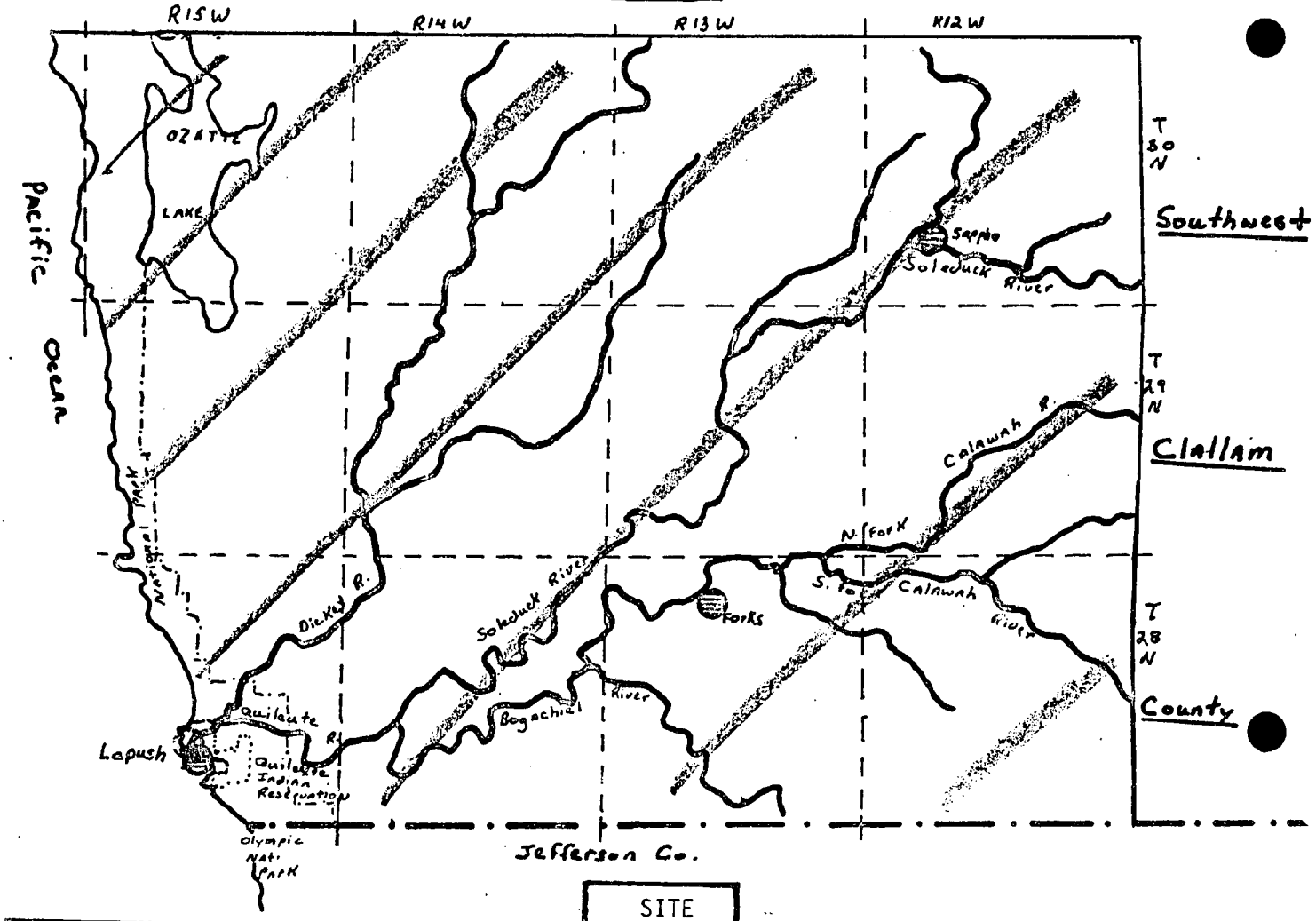
Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other

Comments: Map very generalized - whole reservation within one classification. Associations are mapped but interpretations are given at soil series level. May be used for analysis if soil series or type maps for reservation are obtained.

Best use is at regional level.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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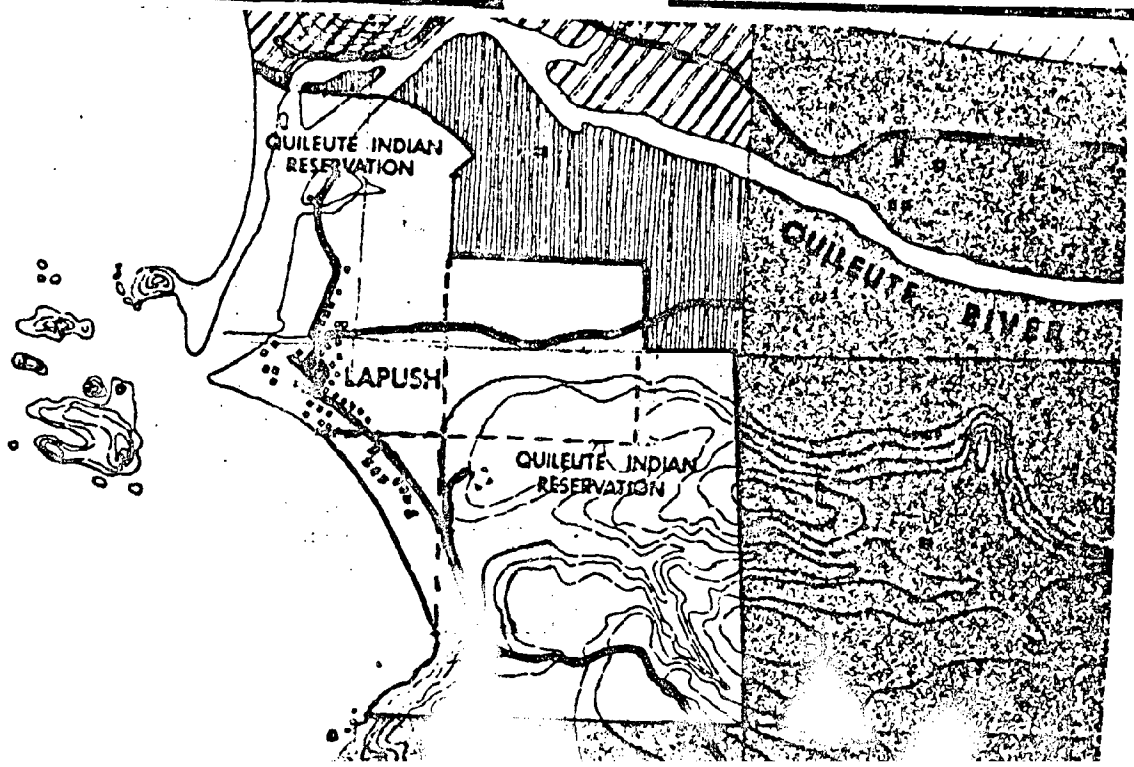


Southside
Community
Consultants

Name KG

Date 6/8/78

DATA SURVEY FORM

I. Variable Name Soil Capability Classes

II. Source Pacific NW. River Basin Commission, Page 31, 35
Comprehensive Framework Study -
Summary, 1975

III. Contact Person/ Location of Data WWU Library (WESTERN WASHINGTON UNIVERSITY)

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1" = 40 miles

3. Contour interval: NA

4. Level of detail: general
(minimum geographic area)

5. Agency that generated data: Pacific NW. River Basin Commission

6. Date data produced: 1972

7. Classifications of data:
   a. Number
   b. Listing Soil Capability Classes - 1-VIII, Irrigatable Lands

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

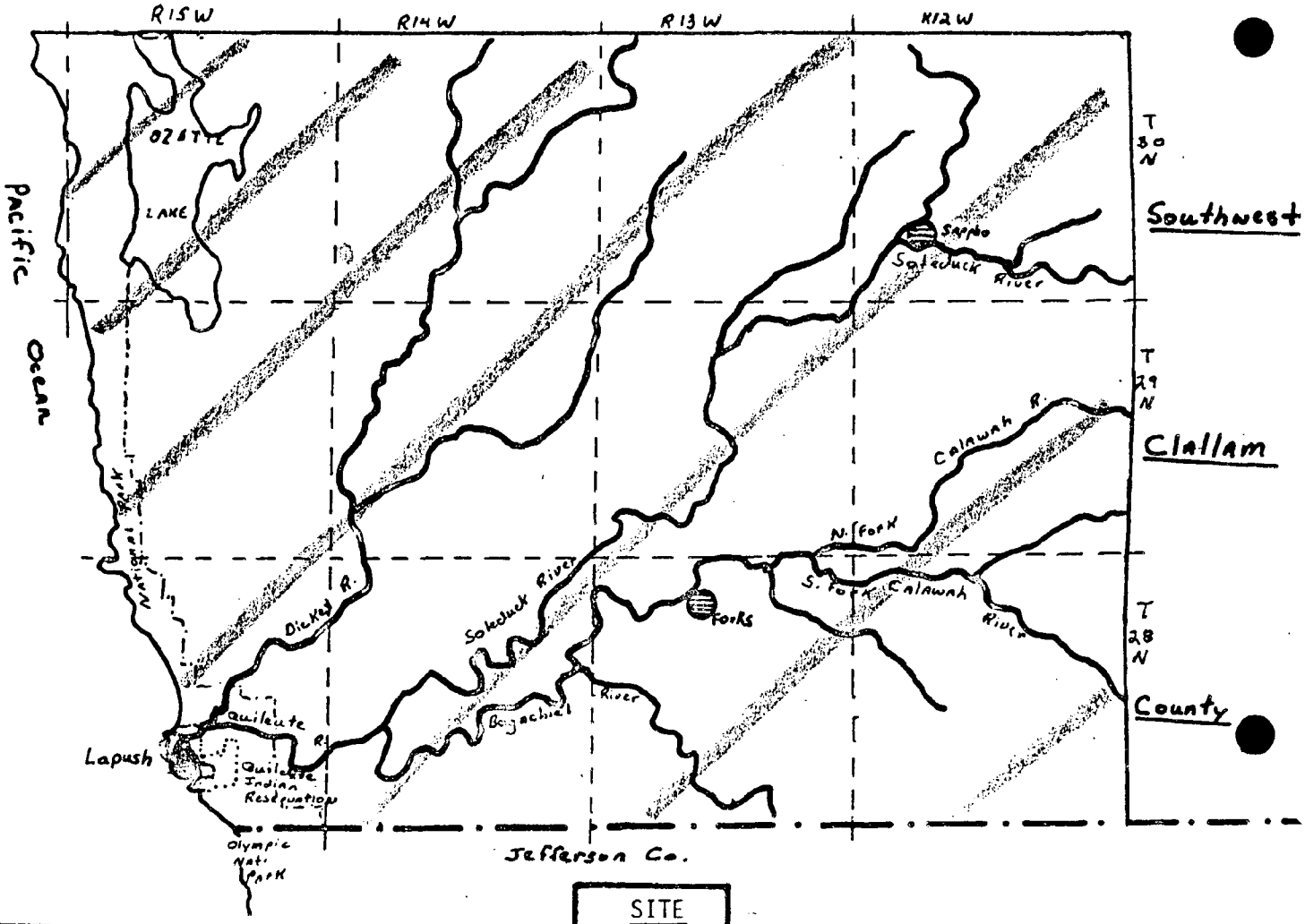
Limitations: ( ) outdated (x) scale ( ) accuracy ( ) availability ( ) cost
( ) other classifications are not specific enough

Comments: Whole site is Class VI - severe limitations for cultivation.

Useful for regional planning only.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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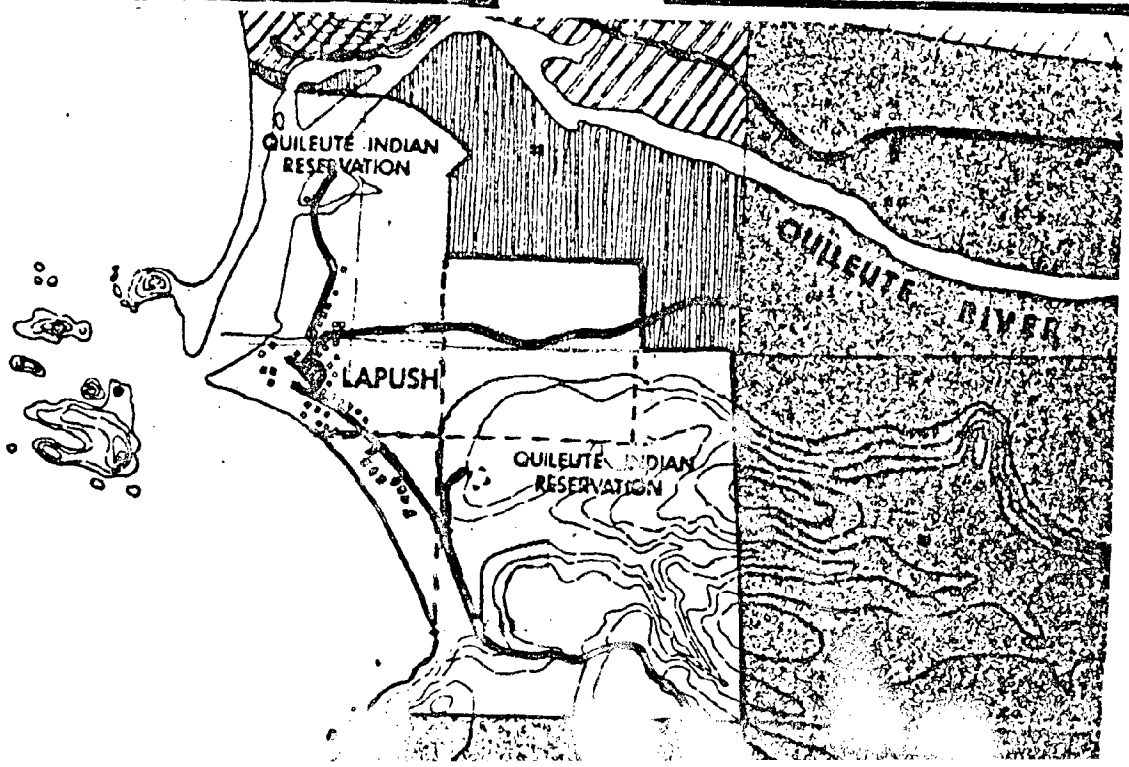


Southside
Community
Consultants

Name KG

Date 6/12/78

DATA SURVEY FORM

I. Variable Name Potential for Irrigation

II. Source Pacific NW River Basin Commission, Comprehensive Framework Study, Appendix IX, 1971 Page Fig. 49, pp. 284-285

III. Contact Person/ Location of Data

WWU Library (WESTERN WASHINGTON UNIVERSITY)

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 25 miles
3. Contour interval: NA
4. Level of detail: Approx. 200 acre minimum area.
   (minimum geographic area)
5. Agency that generated data: SCS, Portland
6. Date data produced: 1970
7. Classifications of data:
   a. Number 4
   b. Listing 3 classes of potentially irrigated land and land now irrigated.
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

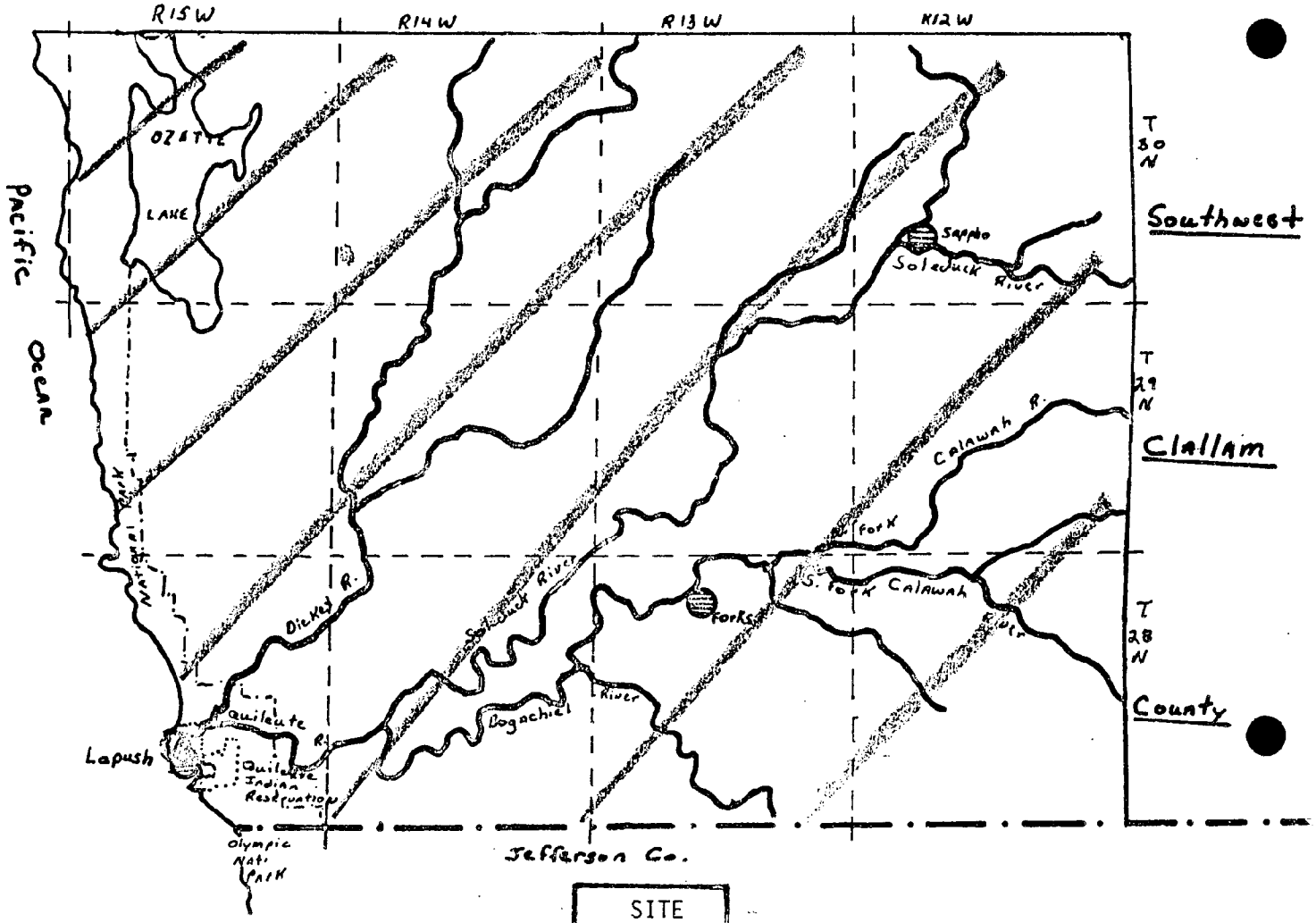
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other

Comments: Useful background information for planning at regional scale.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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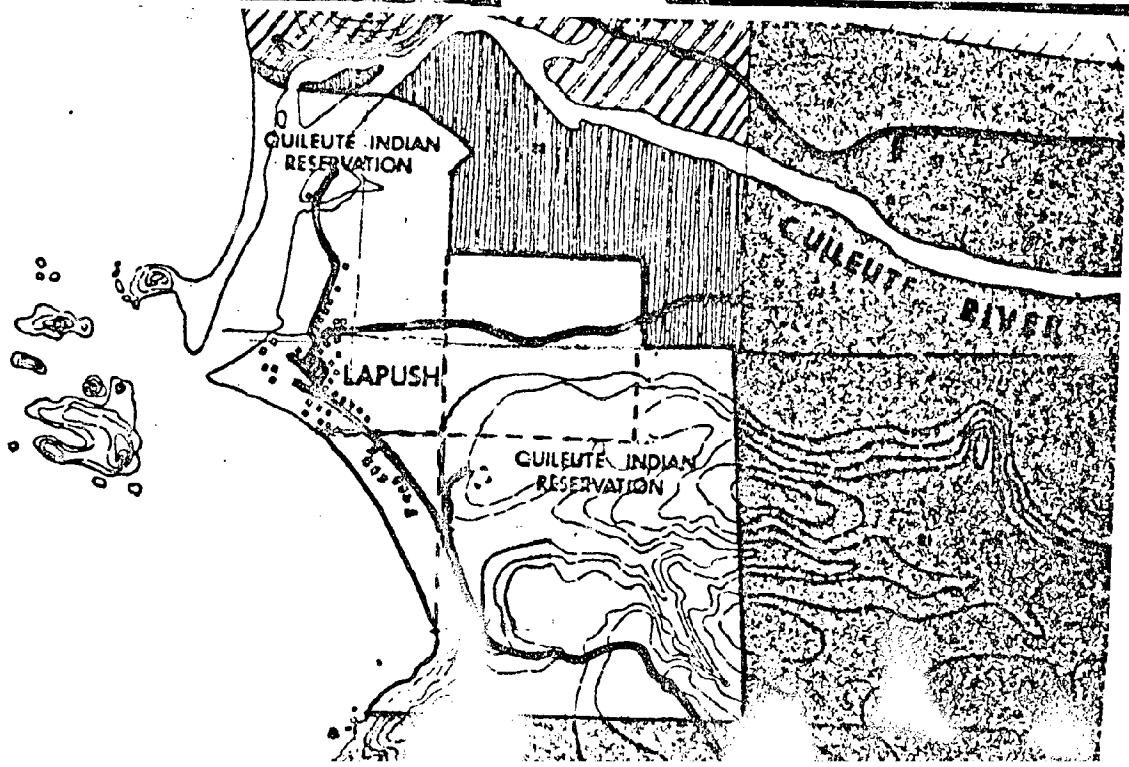


Southside Community Consultants

Name KG

Date 6/9/78

DATA SURVEY FORM

I. Variable Name: Soil Logs

II. Source: CH2M Hill
Contract Document for Sewer Facilities, Quileute Indian Tribe, 1975
Page: Part 5, Plate 3

III. Contact Person/ Location of Data:

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital (x) other soil logs
2. Scale of data: 1" = 400'
3. Contour interval:
4. Level of detail: (minimum geographic area)
5. Agency that generated data: CH2M Hill
6. Date data produced: May, 1975
7. Classifications of data:
   a. Number
   b. Listing: Ground control points, soil log locations, soil characteristics, water table level, elevation
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

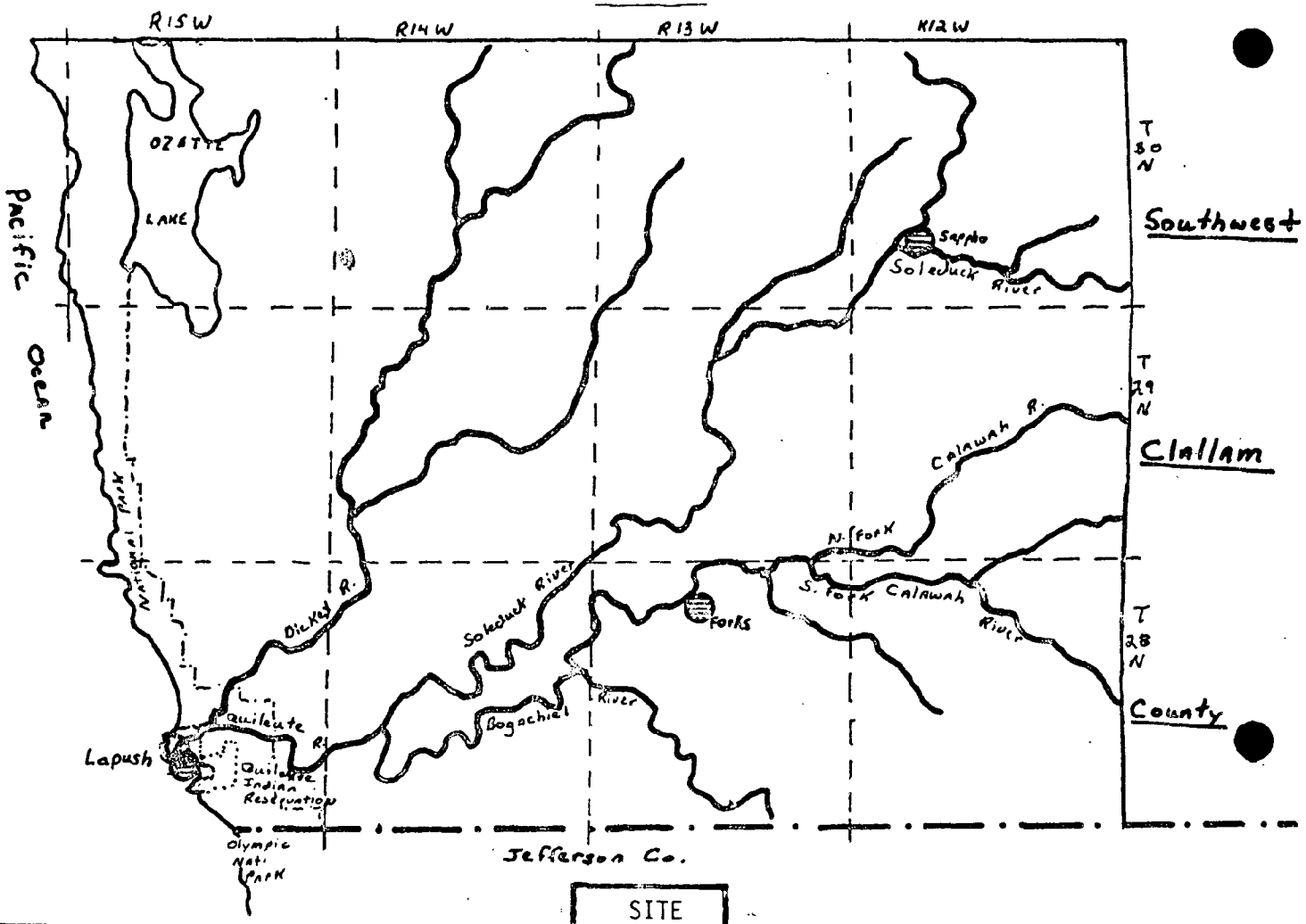
Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other Must be interpreted but appears to be OK. Whole reservation is not covered.

Comments:

May provide useful background data on site specific level and may be used to verify soil survey.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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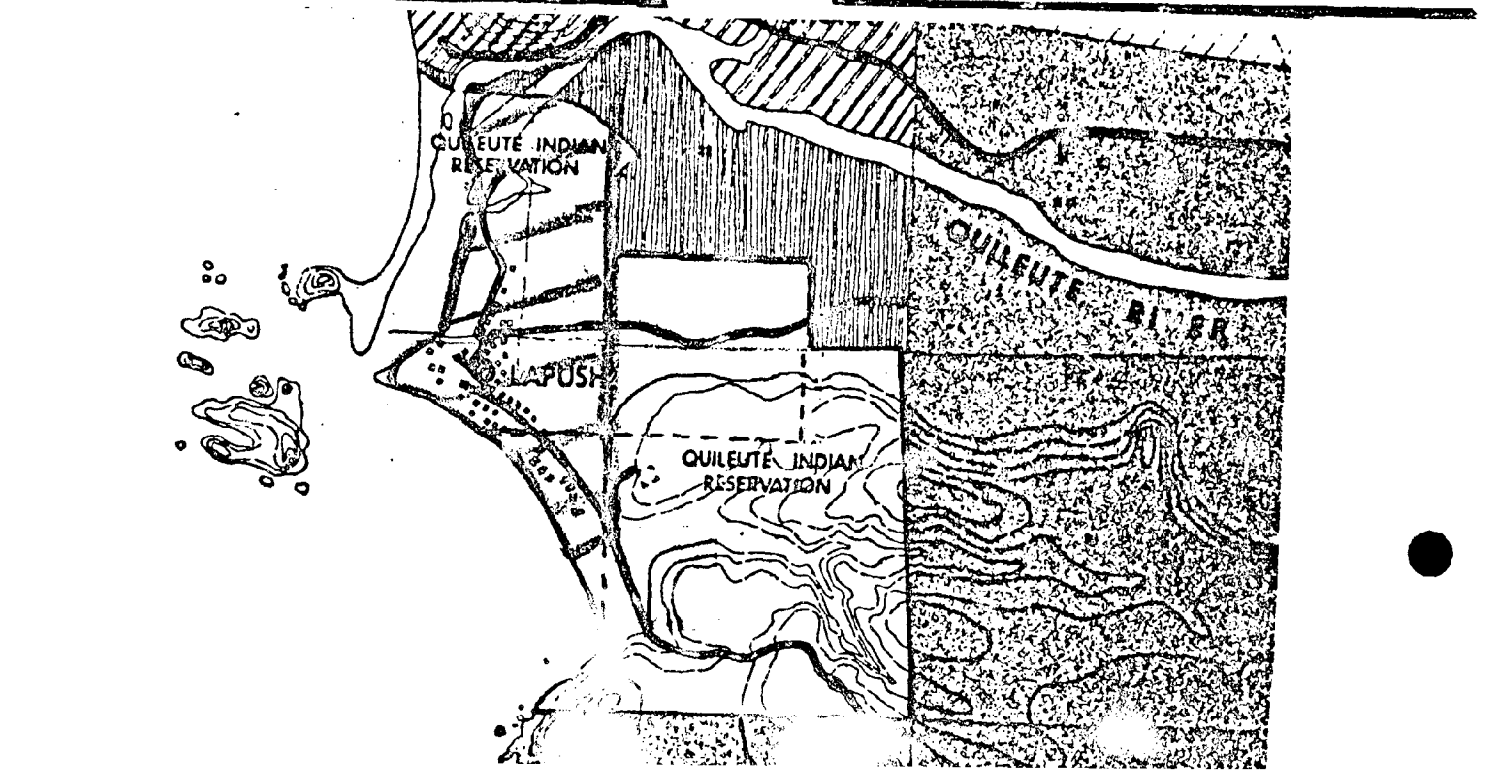

Southside
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Consultants

Name KG

Date 6/15/78

DATA SURVEY FORM

I. Variable Name: Soil Erosion Hazard

II. Source: U.S. Forest Service
Final Environmental Statement
Soleduck Planning Unit (no date)

Page: 130-133

III. Contact Person/ Location of Data: Port Angeles Library
National Park Service Library

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: No scale
3. Contour interval: None
4. Level of detail: (minimum geographic area) Section
5. Agency that generated data: Forest Service
6. Date data produced: ?
7. Classifications of data:
   a. Number 5
   b. Listing high to none.
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

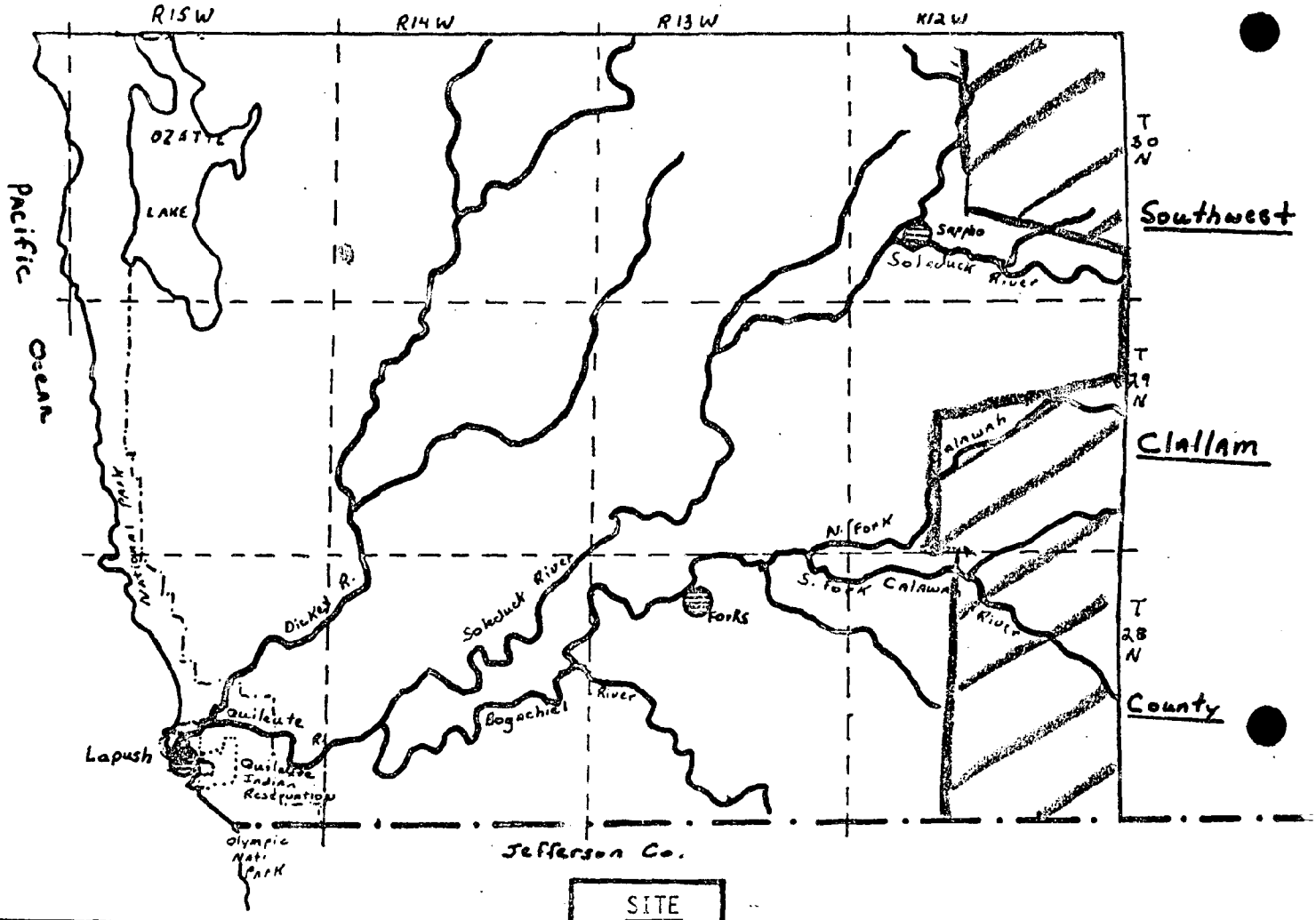
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost (x) other does not cover reservation

Comments: Useful for determining watershed characteristics on regional scale.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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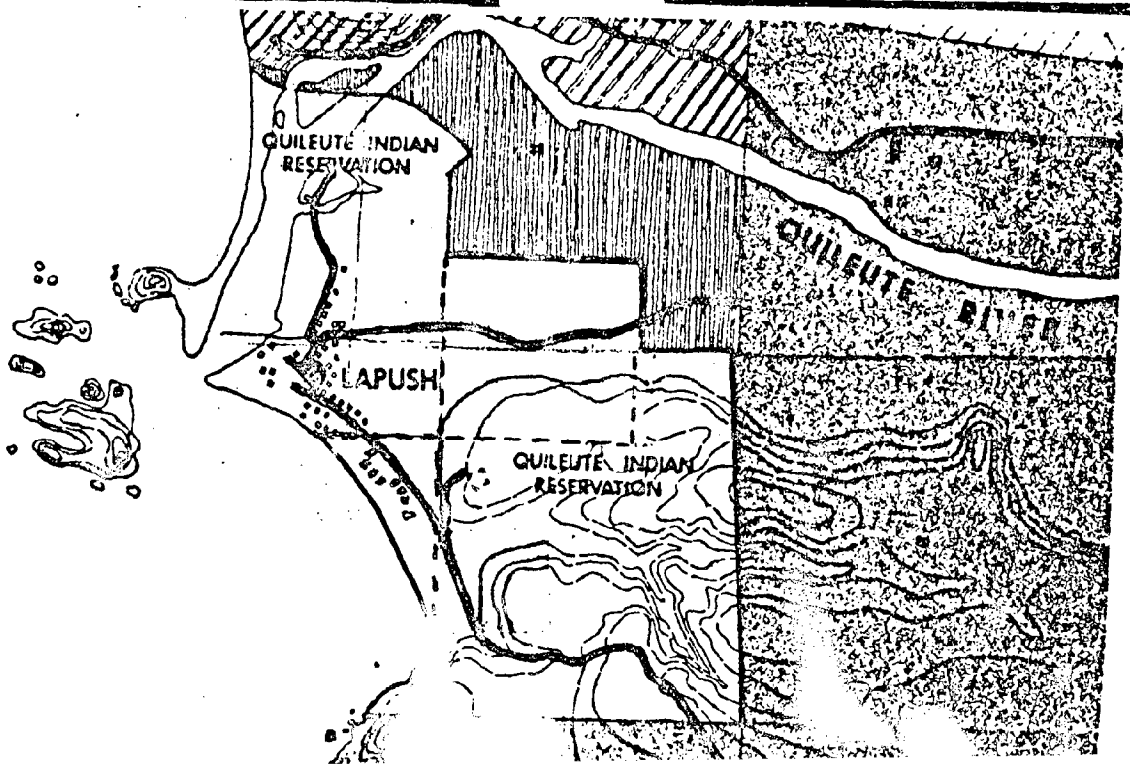

Southside
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Name KG

Date 9/7/77

DATA SURVEY FORM

I. Variable Name Soils

II. Source Soil Conservation Service — Page 21-55
Clallam Co. Soil Survey, 1951

III. Contact Person/
Location of Data

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1:62,500

3. Contour interval: NA

4. Level of detail: Series - approx. 80 acres on reservation
(minimum geographic area)

5. Agency that generated data: SCS

6. Date data produced: 1938

7. Classifications of data:
   a. Number 4
   b. Listing coastal beach, reed clay, Wellman gravely loam, Undifferentiated Astoria, hobro & Sekia soils. Includes description of origin, productivity, composition & cover.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

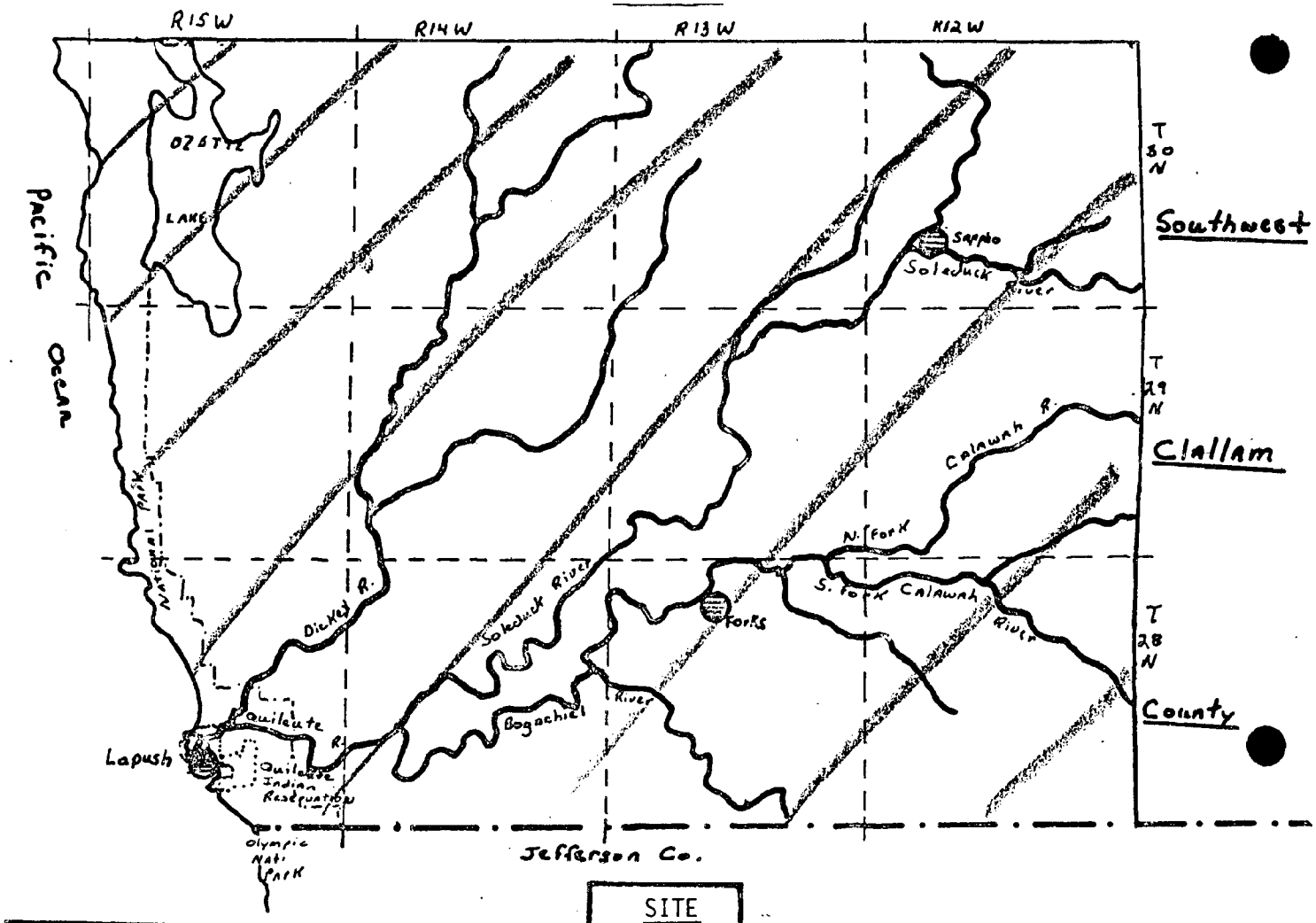
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: (x) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other

Comments:
-Mapped information does not correspond with on-site investigation.
-Survey is old and done on large scale.
-Data may be interpreted for identification of hazards and development suitability.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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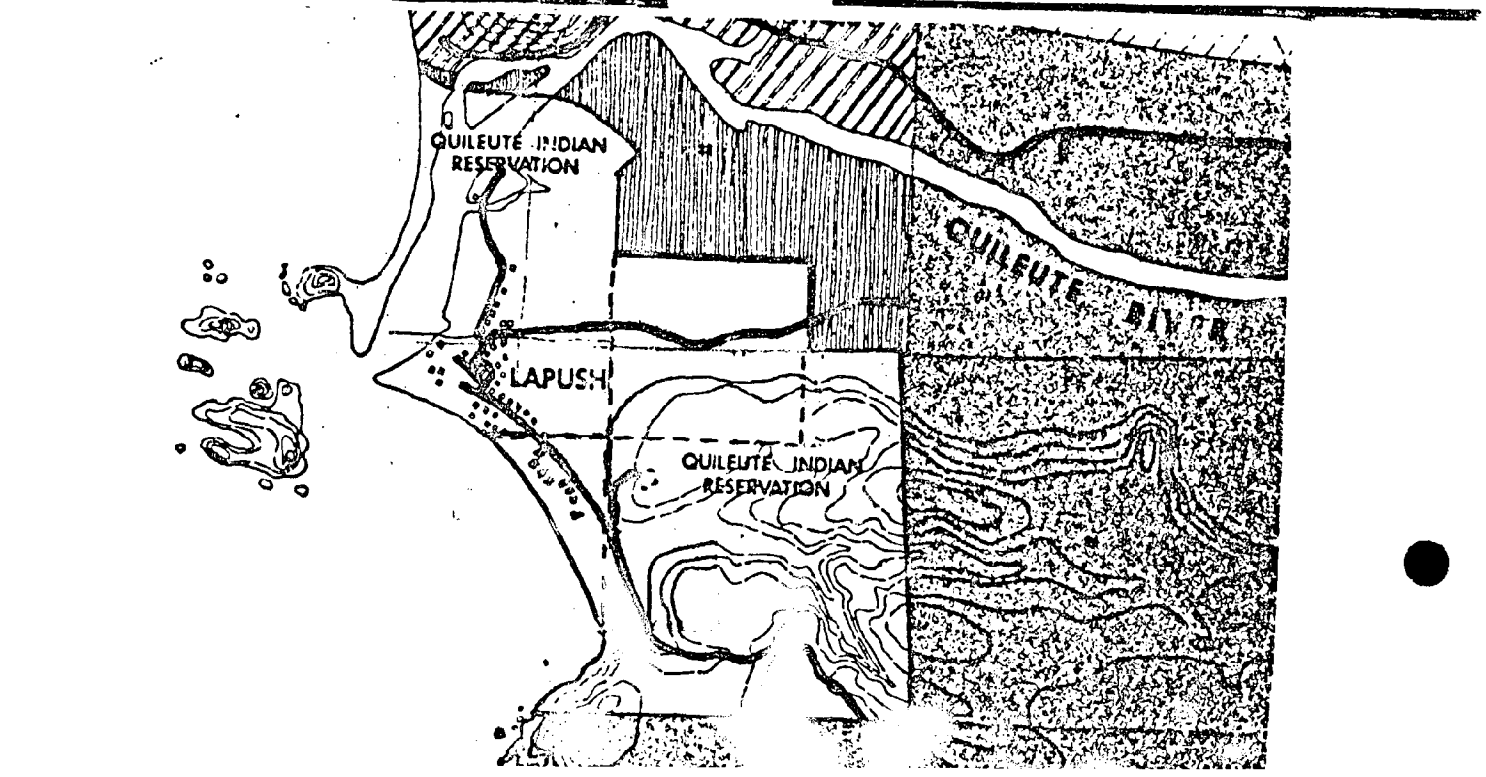

Southside
Community
Consultants

Name B. B.

Date 6-21-78

DATA SURVEY FORM

I. Variable Name Slide/erosion hazard - Lonesome Creek Site

II. Source Johns, Chester. Report of Slide on Lonesome Creek at LaPush, Soil Conservation Service, Dec. 1977 (Suite 214: 300 - 120th N. E. Bellevue, WA. 98205) Page

III. Contact Person/ Location of Data Johns, Chester A., SCS Bellevue; SCS Office, Port Angeles

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CHARACTERISTICS OF DATA

1. Source format: (X) mapped ( ) air photo (X) text ( ) tabular ( ) digital ( ) other
2. Scale of data: NA
3. Contour interval: NA
4. Level of detail: site of slide shown by range schematic drawing (minimum geographic area)
5. Agency that generated data: Soil Conservation Service
6. Date data produced: Dec. 15, 1977
7. Classifications of data:
   a. Number size of slide; possible cause of slide; remedial measures
   b. Listing
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

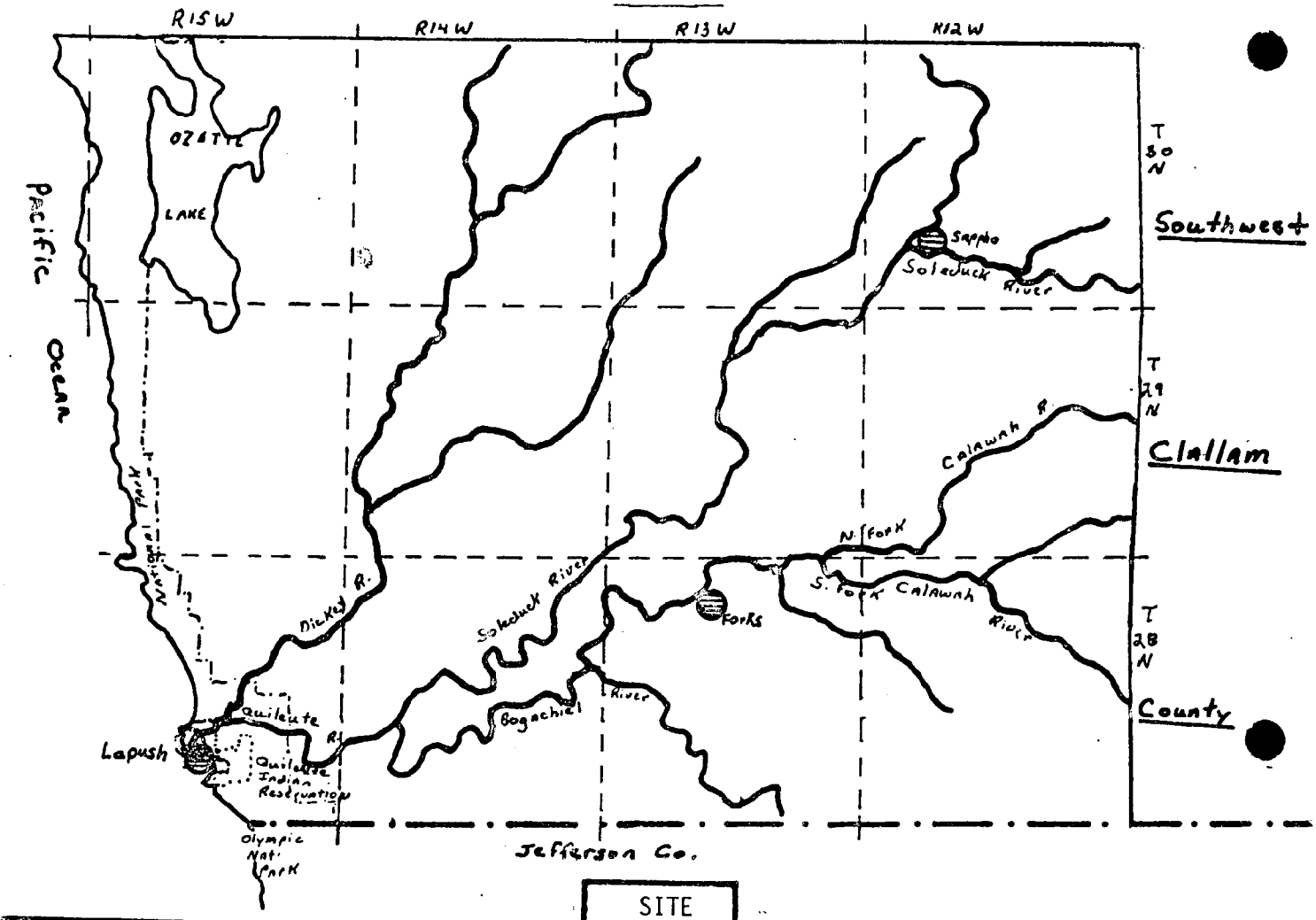
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other

Comments: further information required to analyze site characteristics for application of slide potential for other areas of reservation; information of limited value for planning without this analysis; data could supplement reservation wide survey of soils.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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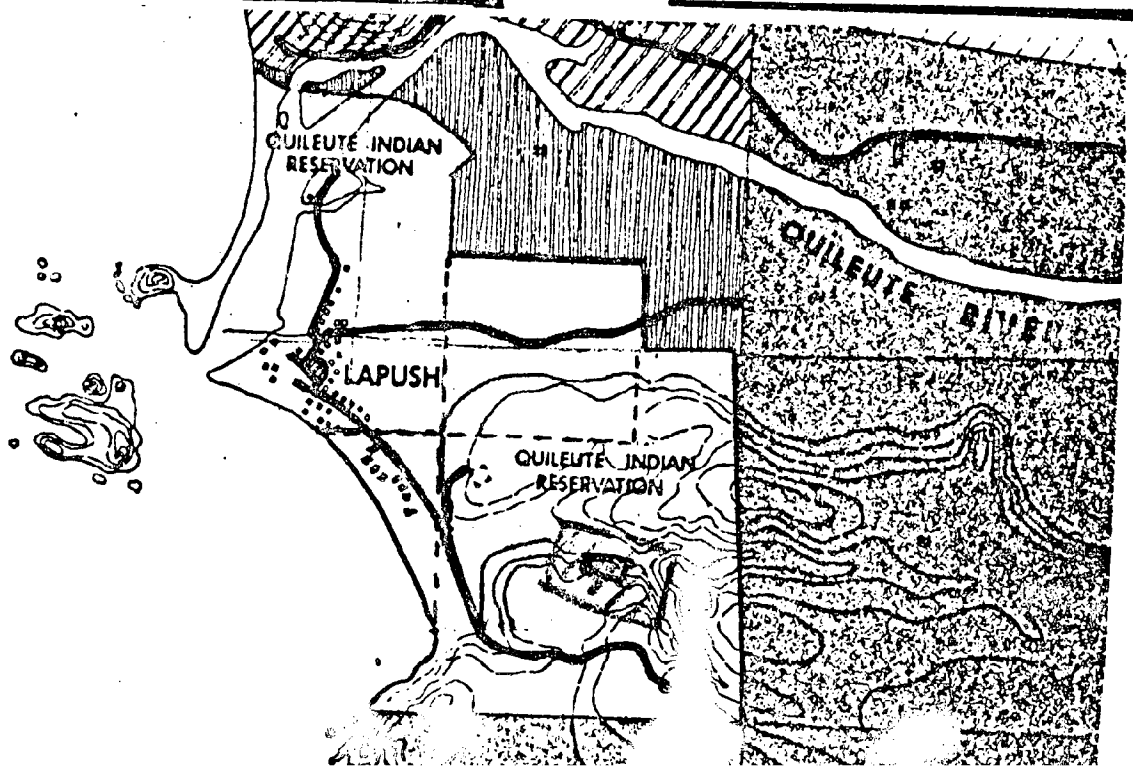

Southside
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Consultants

Name KG

Date 6/1/78

DATA SURVEY FORM

I. Variable Name Soil, Engineering Suitability for foundation for building

II. Source Engineering Report on Site of Ice Manufacture Bldg. Page

III. Contact Person/ Location of Data tribe

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text (x) tabular ( ) digital ( ) other
2. Scale of data: NA
3. Contour interval: NA
4. Level of detail: point (minimum geographic area)
5. Agency that generated data: Pittsburgh testing Laboratory, 826 N. West 49th St., Seattle
6. Date data produced: May 3, 1973
7. Classifications of data:
   a. Number
   b. Listing Engineering classification, estimate of bearing value
8. Is data available? ( ) Yes ( ) No
9. Cost of data:

EVALUATION

Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other Location of boring not known

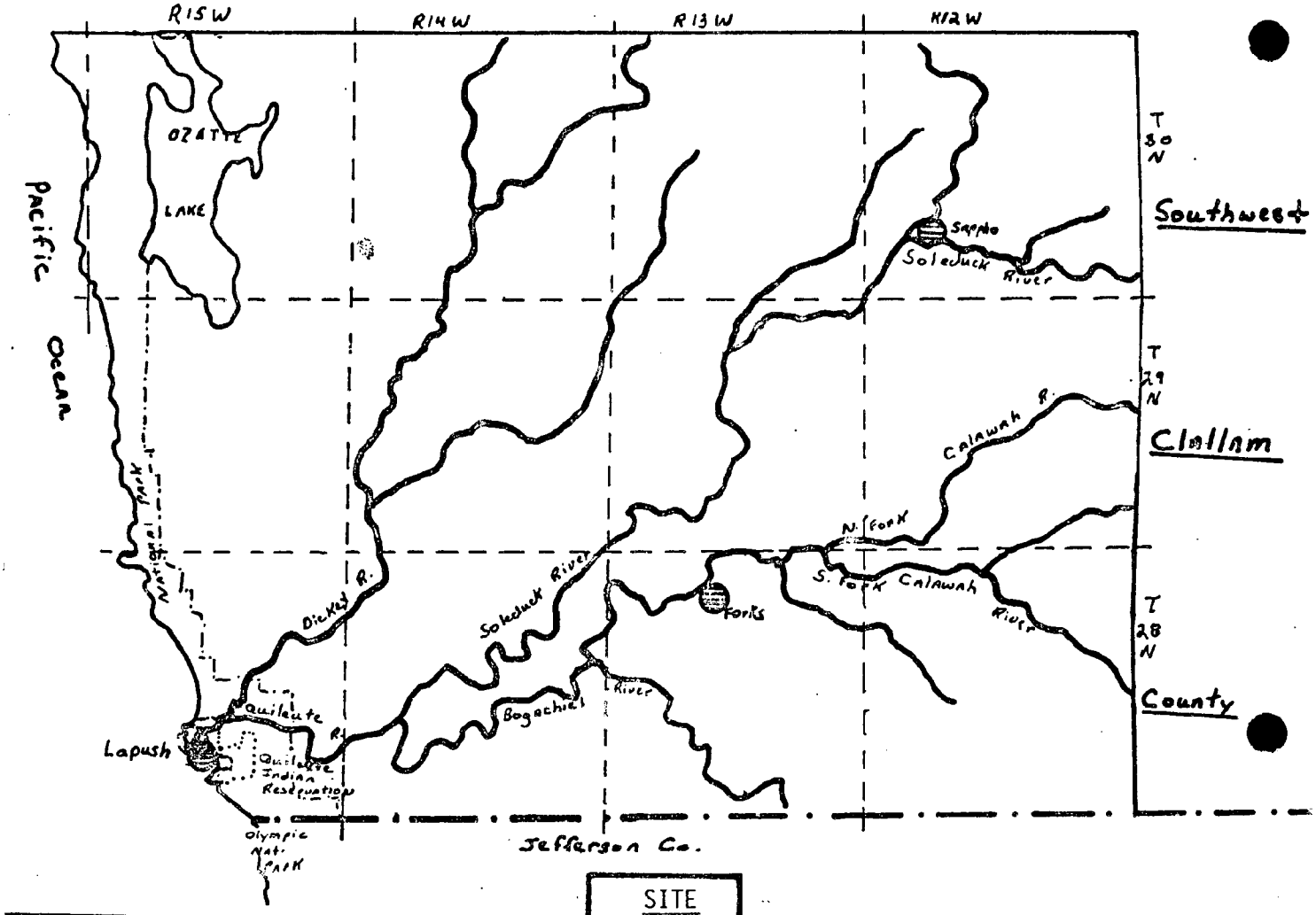
Comments:

Would have to be verified on site and spatial boundary fixed.

Useful background information on site specific level.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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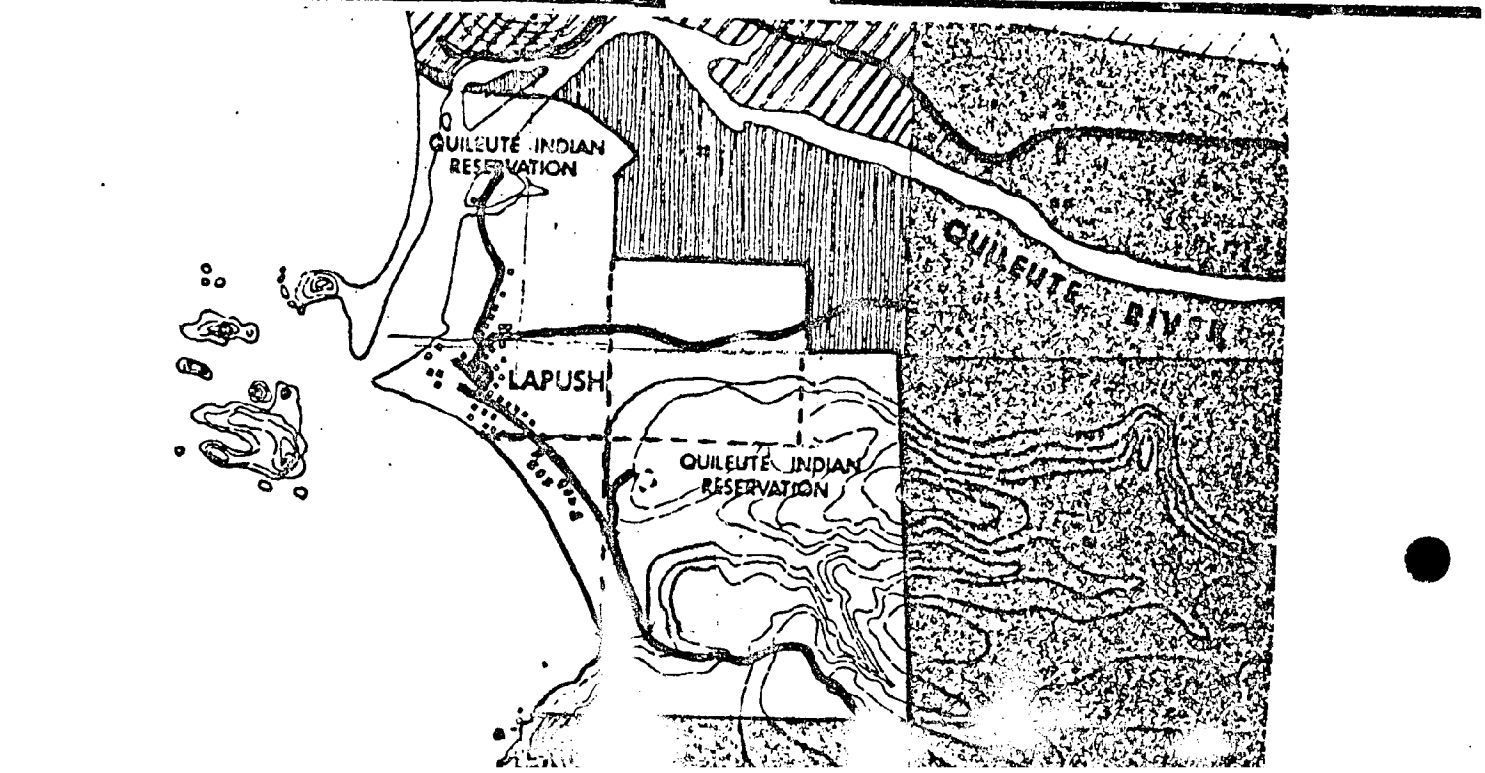


Southside
Community
Consultants

Name KG

Date 6/1/78

DATA SURVEY FORM

I. Variable Name Soils - Engineering Suitability for Roads

II. Source Black, Engineering Report on LaPush Housing Site - Road Section Design, 1978 Page

III. Contact Person/ Location of Data David Black - Agency Road Engineer - BIA Portland copy provided by tribe.

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text (x) tabular ( ) digital ( ) other profiles, seive analysis
2. Scale of data: NA
3. Contour interval: NA
4. Level of detail: (minimum geographic area) Point data
5. Agency that generated data: Western Testing Laboratoris, Inc., Black Lake Blvd., Olympia
6. Date data produced: 1/6/78
7. Classifications of data:
   a. Number
   b. Listing Plasticity index, liquid limit, plastic limit, seive size analysis, soil profile.
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

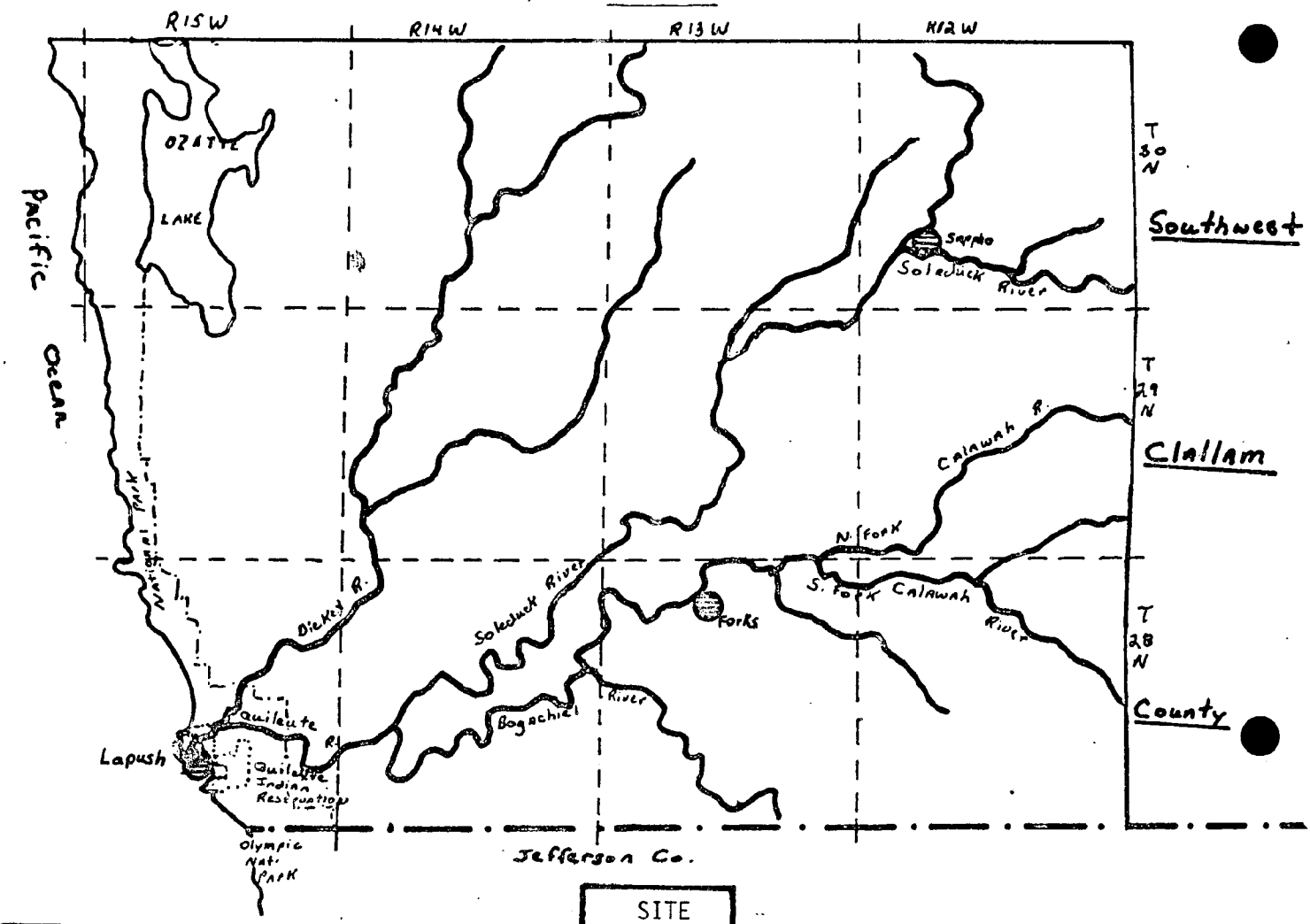
Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other Location of boreholes for soil test not known.

Comments: Soil was found to be unsuitable for foundations - not known to what extent this soil underlies the site.

Useful background information on site scale.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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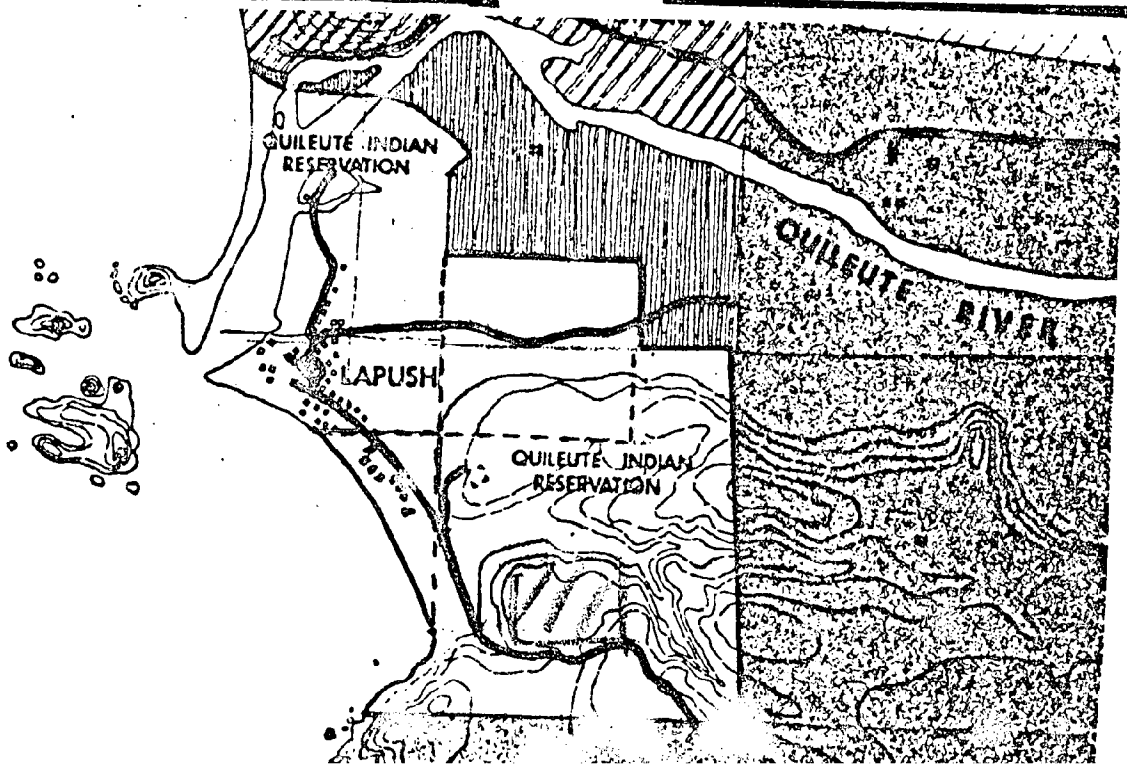


Southside Community Consultants

Name KG

Date 5/31/78

DATA SURVEY FORM

I. Variable Name Flood Plain (100 yr.)

II. Source People Space Architecture Page

Planning Document 2, 1973

III. Contact Person/ Location of Data provided by tribe

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 2" = 1 mile
3. Contour interval: 40 ft.
4. Level of detail: general (minimum geographic area)
5. Agency that generated data: ?
6. Date data produced: ?
7. Classifications of data:
   a. Number 1
   b. Listing 100 yr. flood
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

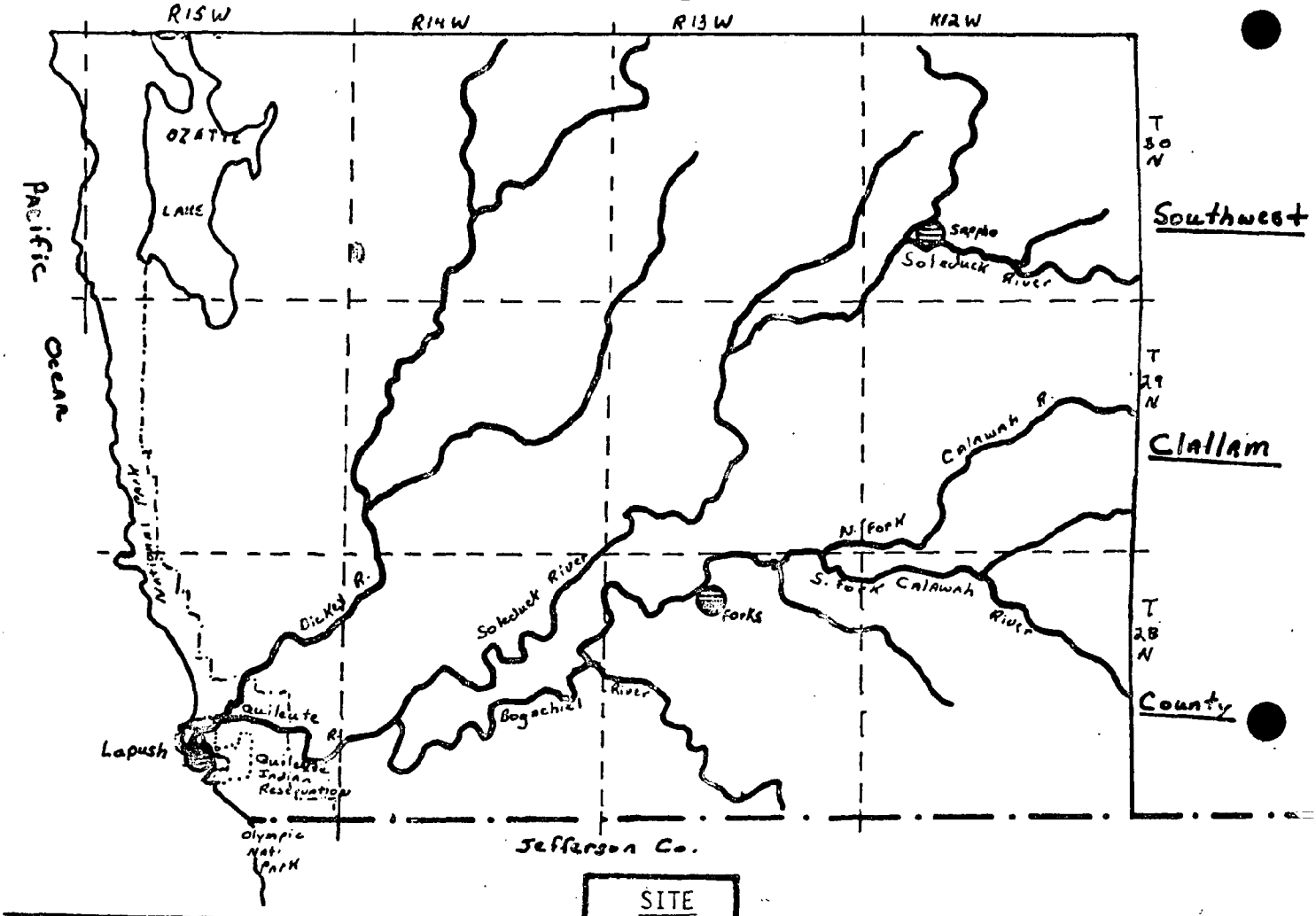
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale (x) accuracy ( ) availability ( ) cost ( ) other

Comments: No source available; without this information accuracy must be questioned. If more recent determination of floodplain exists, it should be used in preference to this.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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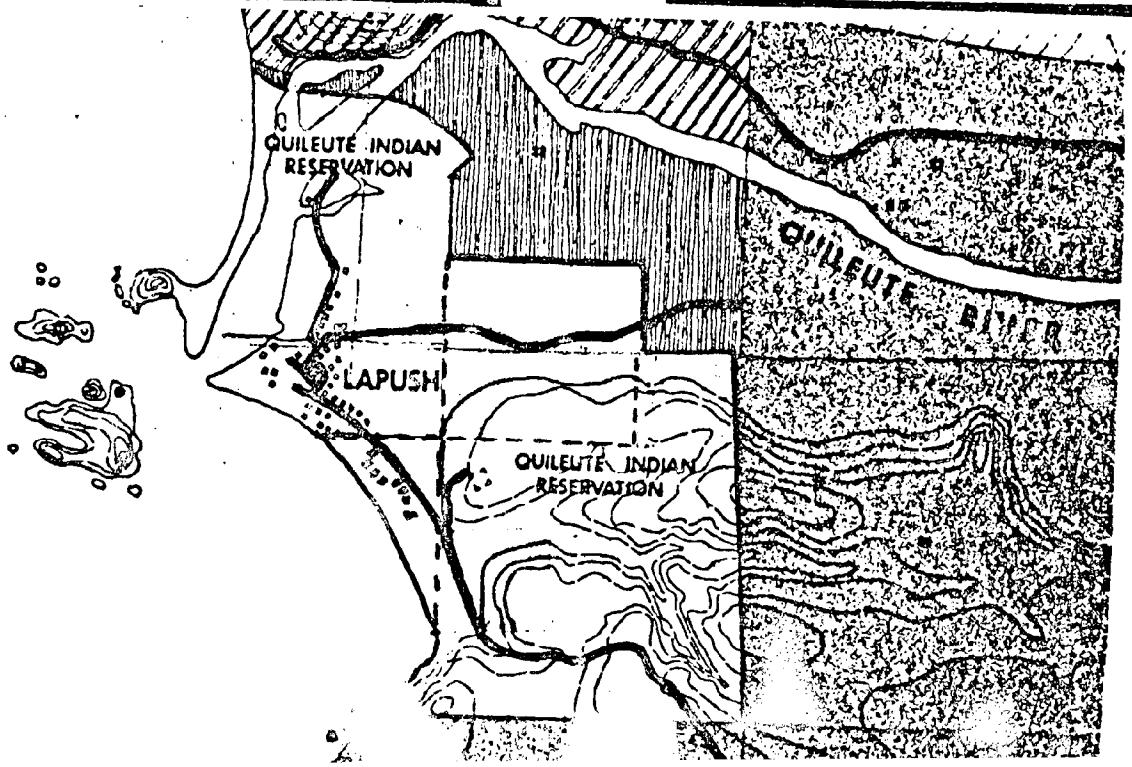

Southside
Community
Consultants

Name KG

Date 5/31/78

DATA SURVEY FORM

I. Variable Name Flood Plain Delineation

II. Source HUD - Flood Hazard Boundary Map, 1977 Page

III. Contact Person/ Location of Data Clallam Co. Planning Office

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CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 200'
3. Contour interval: NA
4. Level of detail: general (minimum geographic area)
5. Agency that generated data: HUD
6. Date data produced: April, 1978
7. Classifications of data:
   a. Number 1
   b. Listing 100 yr. flood plain
8. Is data available? (x) Yes ( ) No
9. Cost of data: ?

EVALUATION

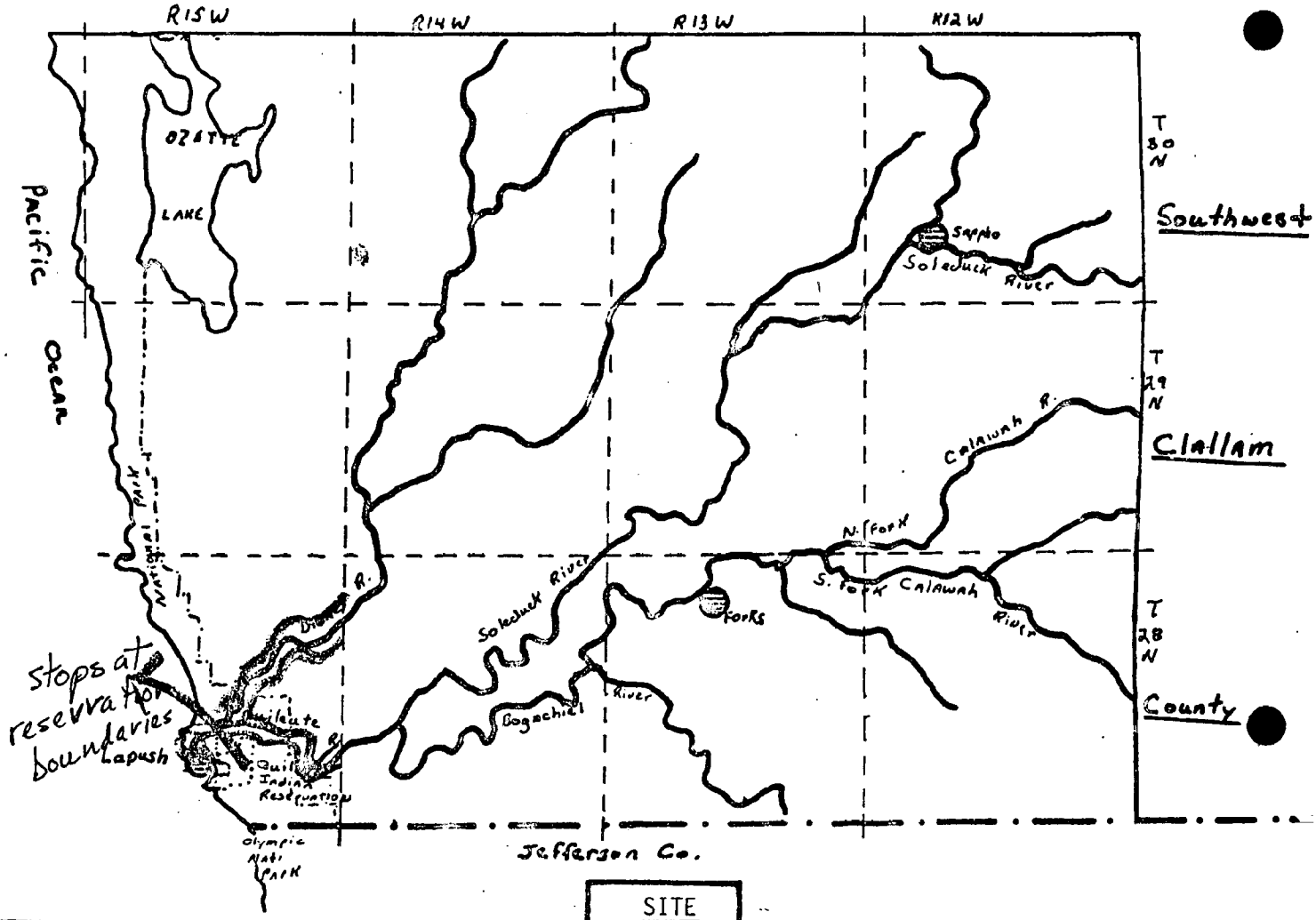
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated ( ) scale (x) accuracy ( ) availability ( ) cost (x) other doesn't cover reservation

Comments: Can HUD provide map for reservation lands?
Suitable for regional analysis only, may be useful for reservation if additional information is obtained on method of survey.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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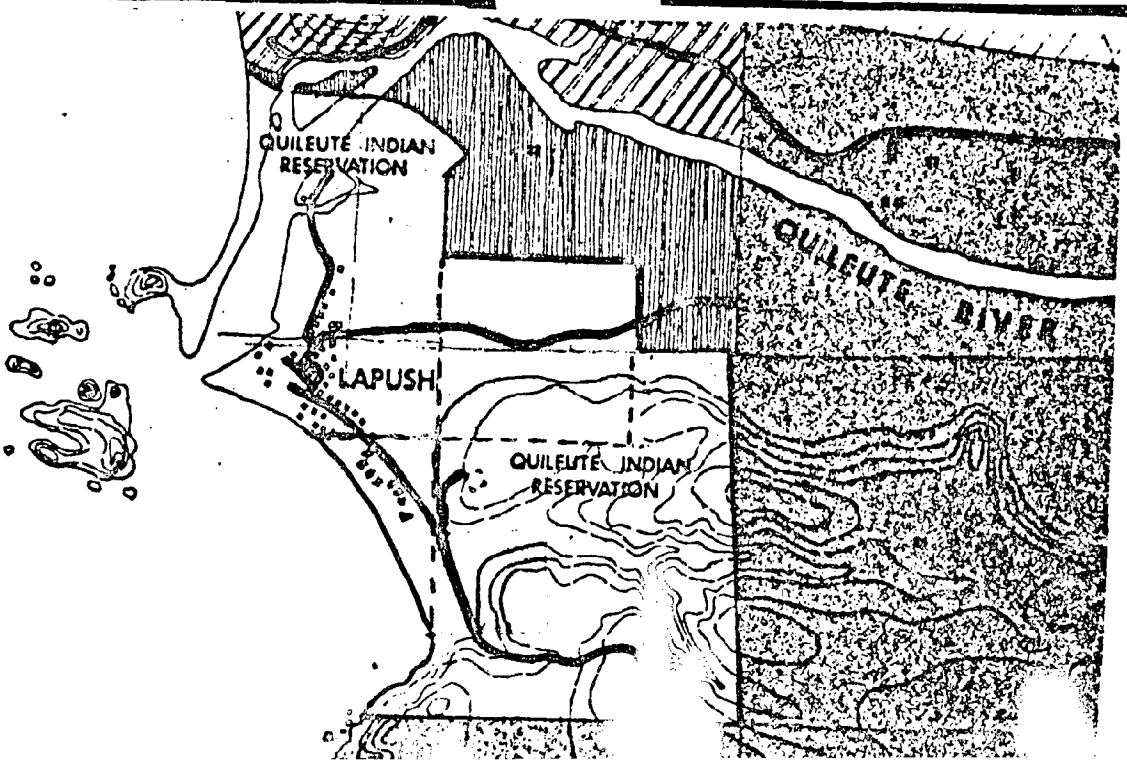


Southside
Community
Consultants

Name KG

Date 6/3

DATA SURVEY FORM

I. Variable Name Quillayute River Drainage

II. Source Corps of Engineers
Environmental Evaluation - Quillayute
River Spit Restoration, 1974

Page 15

III. Contact Person/
Location of Data available from tribe

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital
( ) other

2. Scale of data: ?

3. Contour interval: NA

4. Level of detail: Regional
(minimum geographic area)

5. Agency that generated data: Corps of Engineers

6. Date data produced: 1975

7. Classifications of data:
   a. Number
   b. Listing Watershed size, explanation of flooding, flood discharge (volume)

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

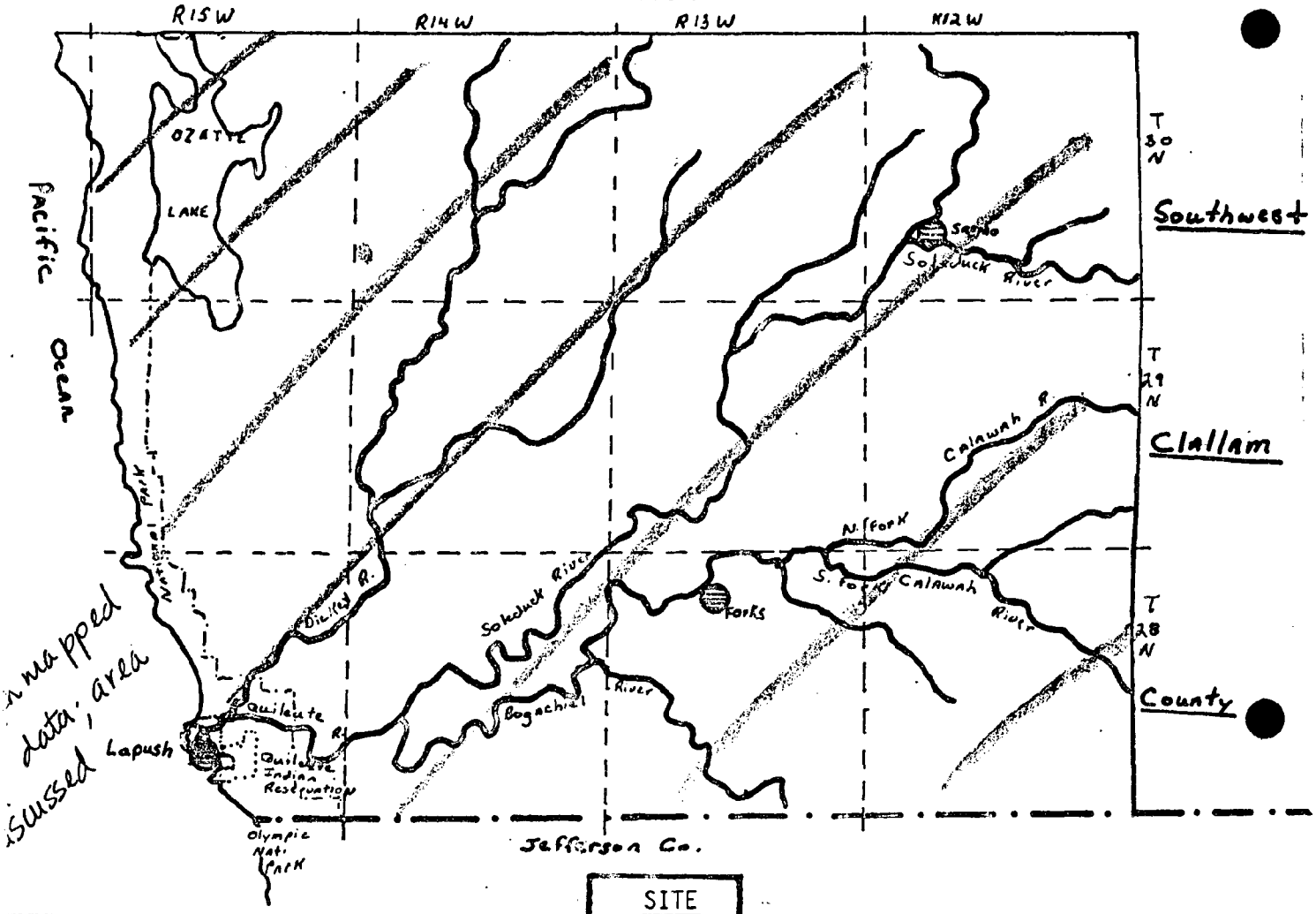
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost
( ) other not mapped, no source given.

Comments: Suitable for background information only unless can be verified and mapped by Corps.

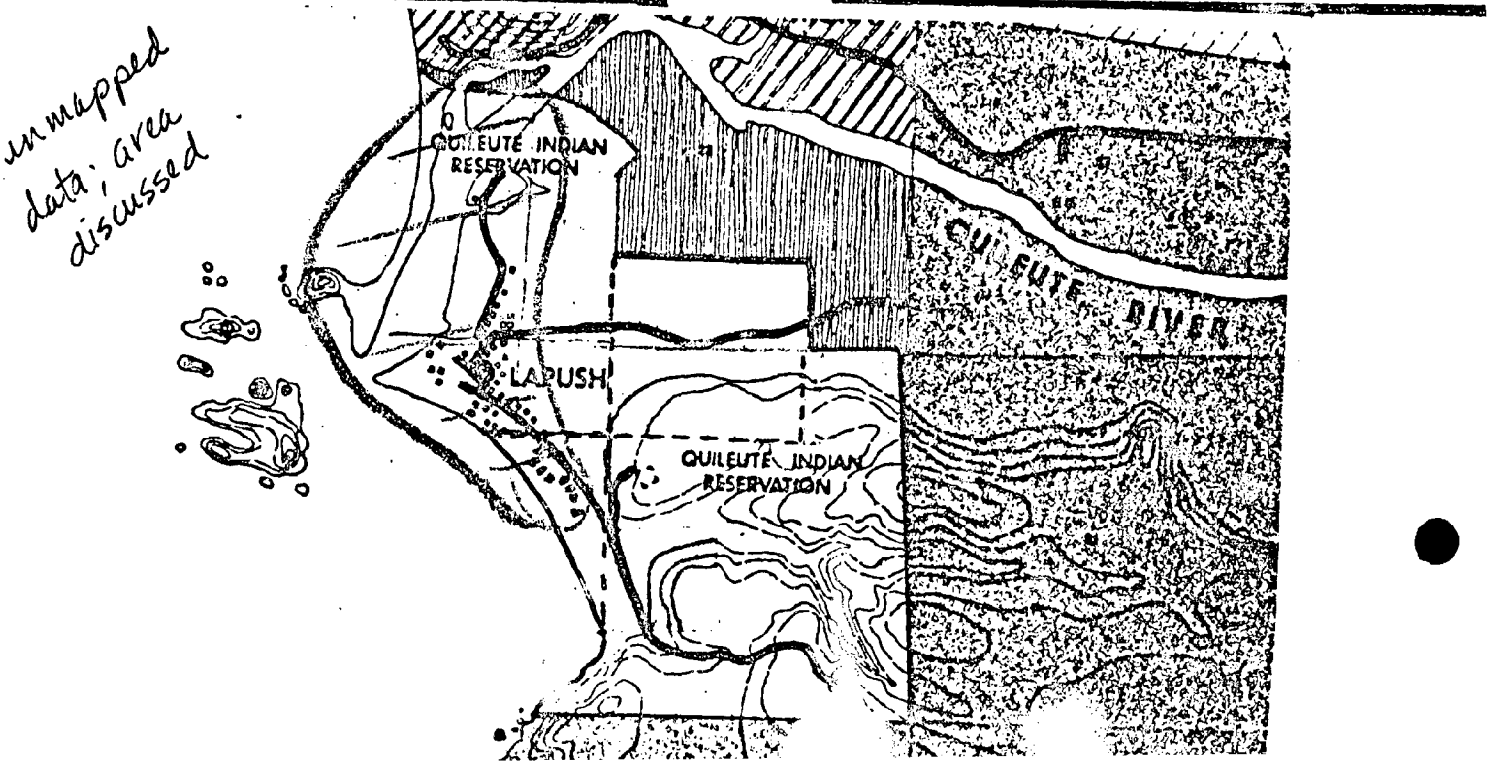
GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



unmapped data area discussed

SITE



unmapped data area discussed

Southside
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Consultants

Name KG
Date 6/15/78

DATA SURVEY FORM

I. Variable Name Drainage Basins/Quileute River & tributaries

II. Source ENCON, North Olympic Coastal Basin Water Quality Management Plan, 1975 Page Fig.2

III. Contact Person/ Location of Data City Library, Port Angeles, Clallam County Planning Office

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CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1:125,000
3. Contour interval: NA
4. Level of detail: River Basin (Major)
(minimum geographic area)
5. Agency that generated data: ENCON Consultants
6. Date data produced: 1975
7. Classifications of data:
   a. Number 1
   b. Listing River Basin Boundaries
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

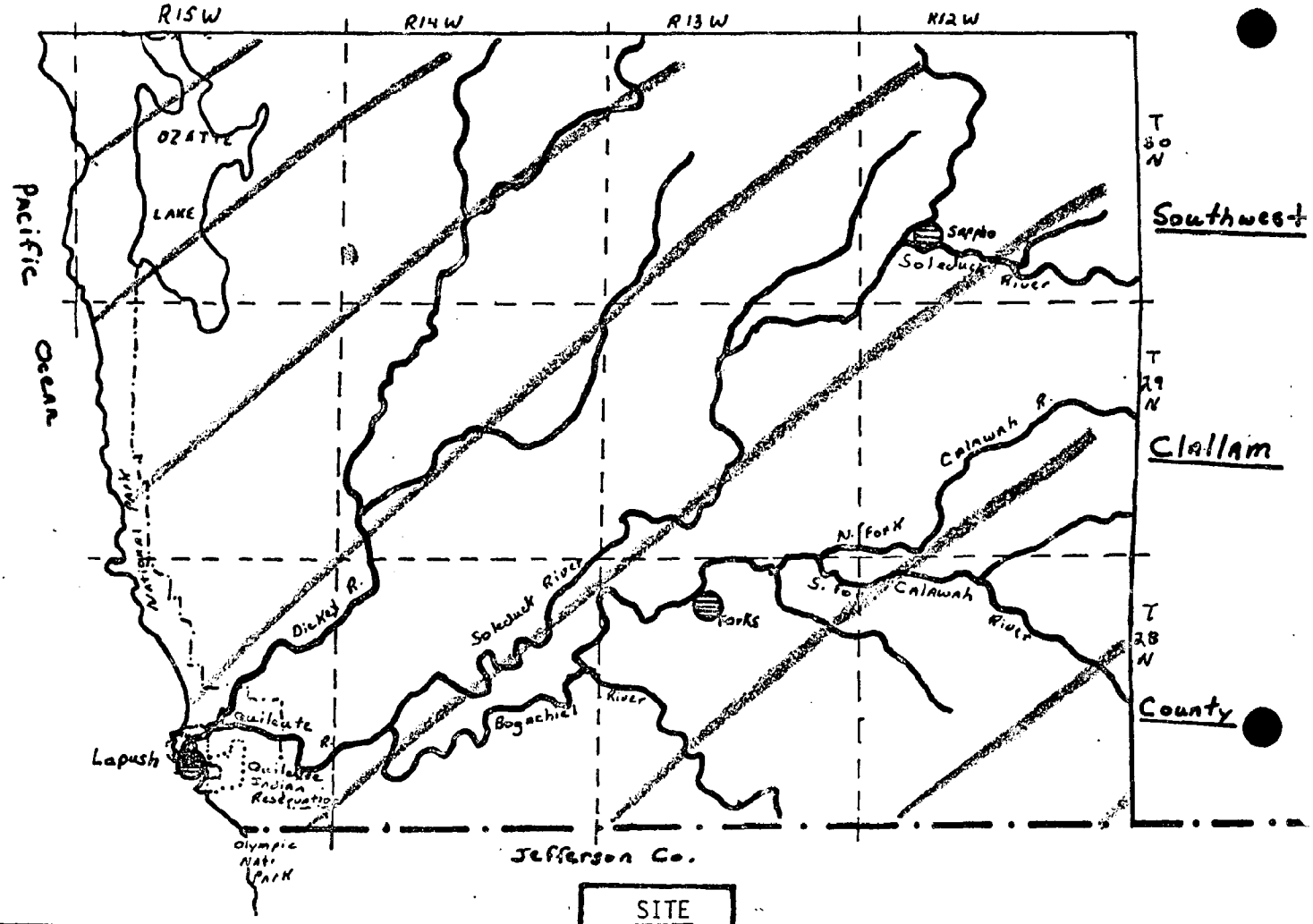
Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other

Comments: Quillayute River Drainage delineated.

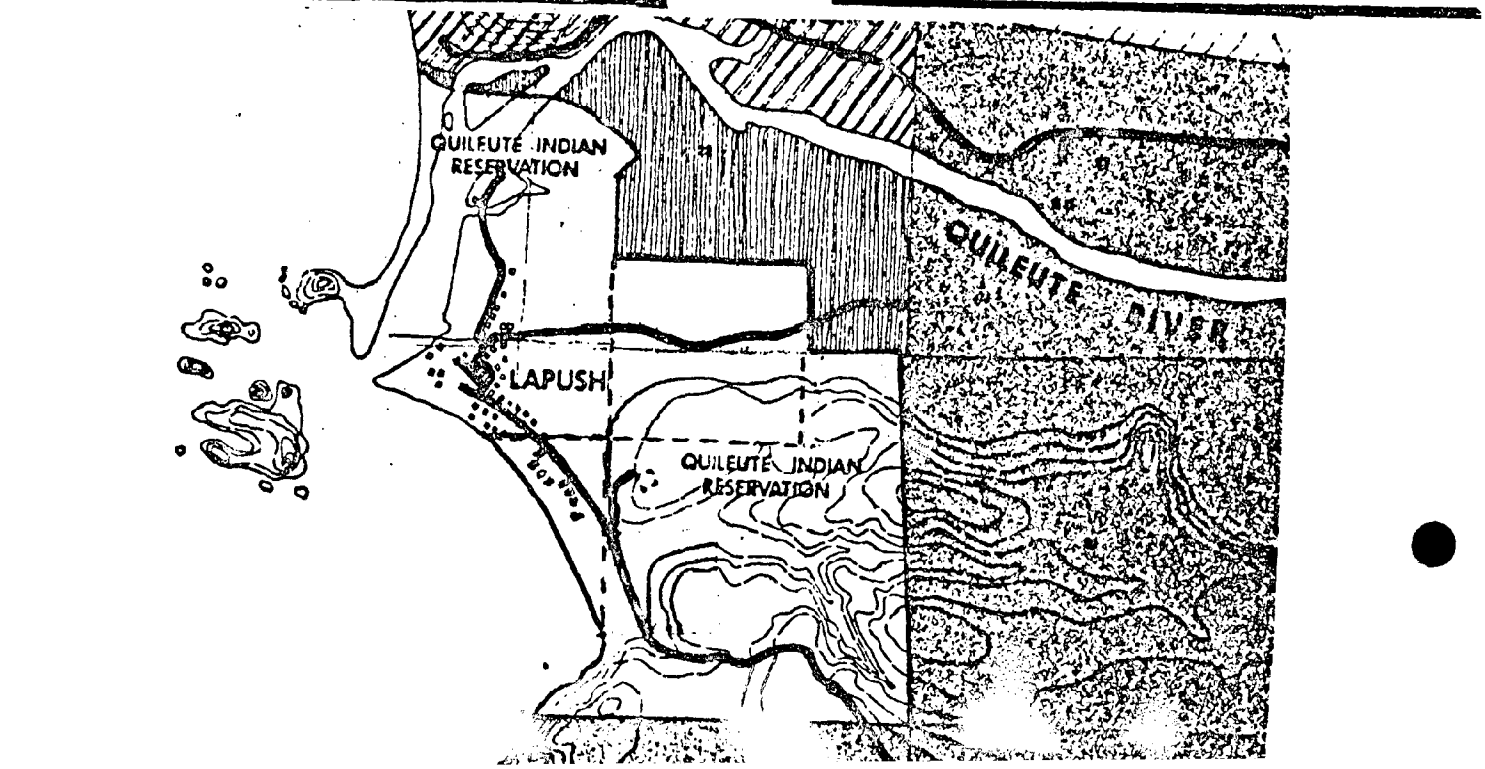
Not suitable level of detail for planning.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside Community Consultants

Name KG

Date 6/12

DATA SURVEY FORM

I. Variable Name River Discharge

II. Source Pacific NW River Basin Commission Page 788, 782, 809, 821, 832
Comprehensive Framework Study, 1970

III. Contact Person/ Location of Data WWU Library (WESTERN WASHINGTON UNIVERSITY)

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo ( ) text (x) tabular ( ) digital ( ) other
2. Scale of data: NA
3. Contour interval: NA
4. Level of detail: (minimum geographic area) Point at Fairholm on Soleduck River.
5. Agency that generated data: ?
6. Date data produced: 1928-1938
7. Classifications of data:
   a. Number (cfs. - cubic feet per second)
   b. Listing mean discharge in cfs per month each year, duration curves, dependable yield
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

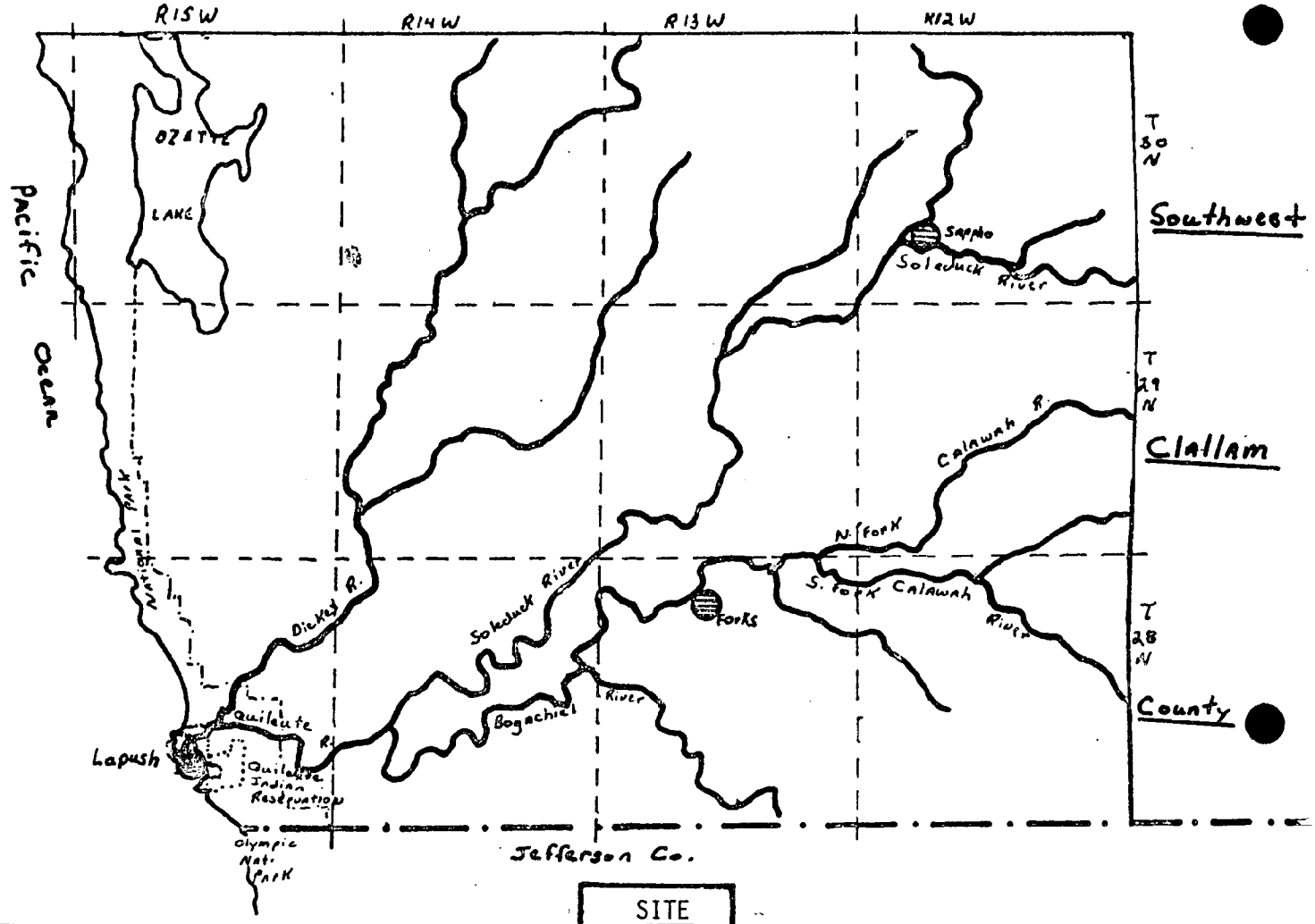
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: (x) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other different geographic area

Comments: May show general trends but without specific comparison to outlet at LaPush, data is virtually meaningless.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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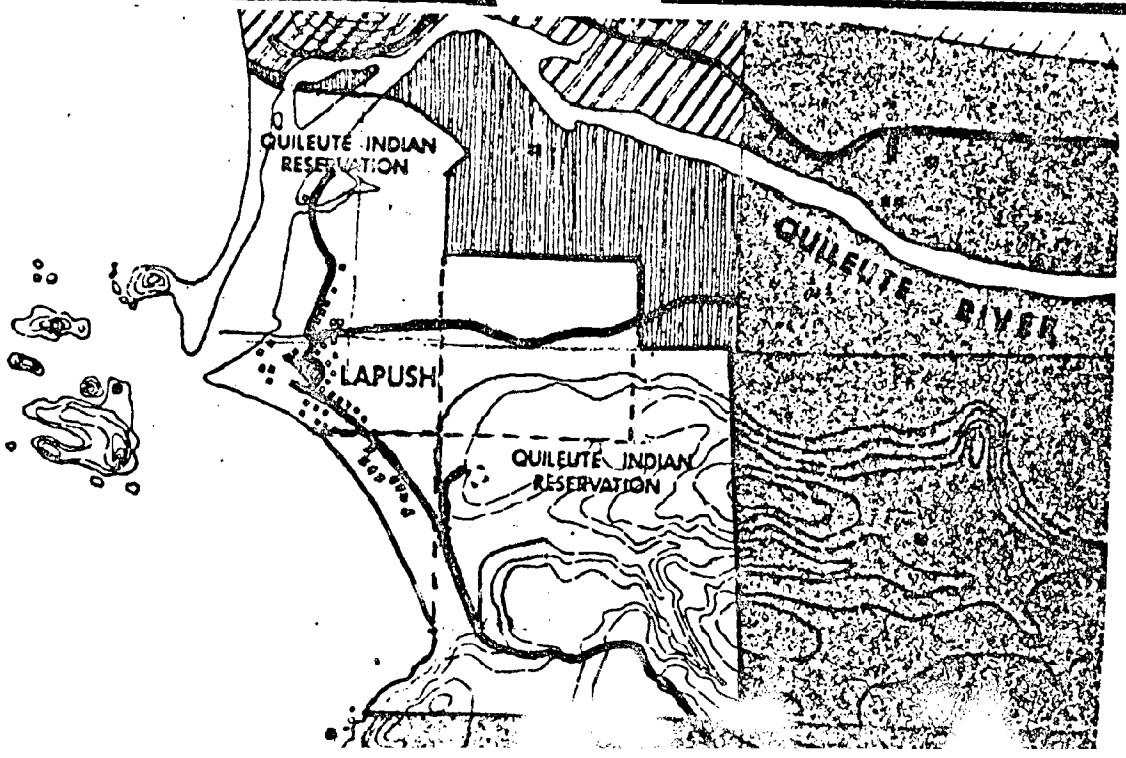


Southside
Community
Consultants

Name KG

Date 6/7

DATA SURVEY FORM

I. Variable Name River Erosion

II. Source Pauley, A Plan for Quileute Tribe, 1972 Page 60-63

III. Contact Person/
Location of Data

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital
( ) other
2. Scale of data: NA
3. Contour interval: NA
4. Level of detail:
(minimum geographic area)
5. Agency that generated data: Corps of Engineers
6. Date data produced: 1971
7. Classifications of data:
   a. Number
   b. Listing Spit erosion, sedimentation
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

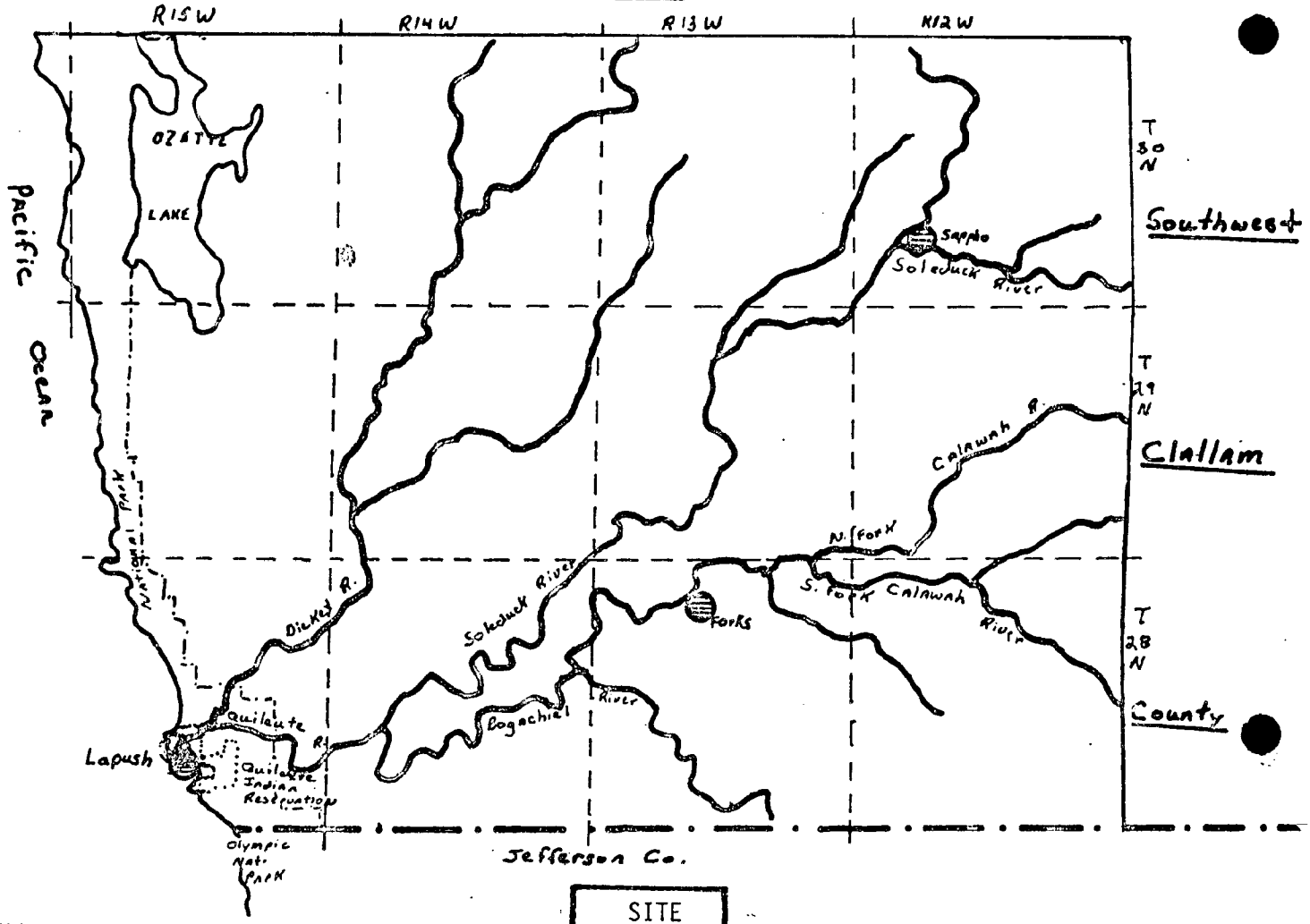
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other unmappable information

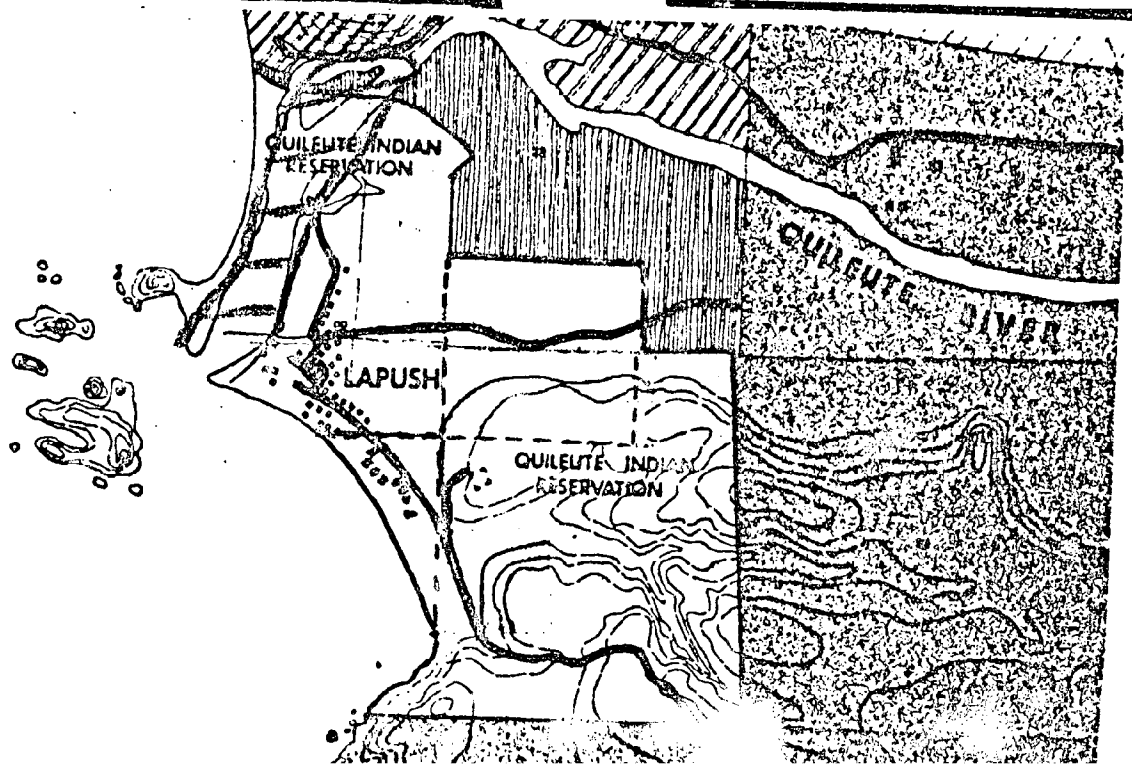
Comments: Useful for background information only.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name B.B.

Date 6-21-78

DATA SURVEY FORM

I. Variable Name Flow Rates - Lonesome Creek

II. Source Borland, Whitney. Memorandum on land slide on Lonesome Creek Page
Aug. 23, 1976 Soil Conservation Service

III. Contact Person/ Location of Data Soil Conservation Service (SCS), Port Angeles District Office

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CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (X) text ( ) tabular ( ) digital
( ) other
2. Scale of data: NA
3. Contour interval: NA
4. Level of detail: Site only generally identified
(minimum geographic area)
5. Agency that generated data: Soil Conservation Service
6. Date data produced: Aug. 1976
7. Classifications of data:
   a. Number (1)
   b. Listing Lonesome Creek seasonal flow rates (cubic feet per second)
8. Is data available? (X) Yes ( ) No
9. Cost of data:

EVALUATION

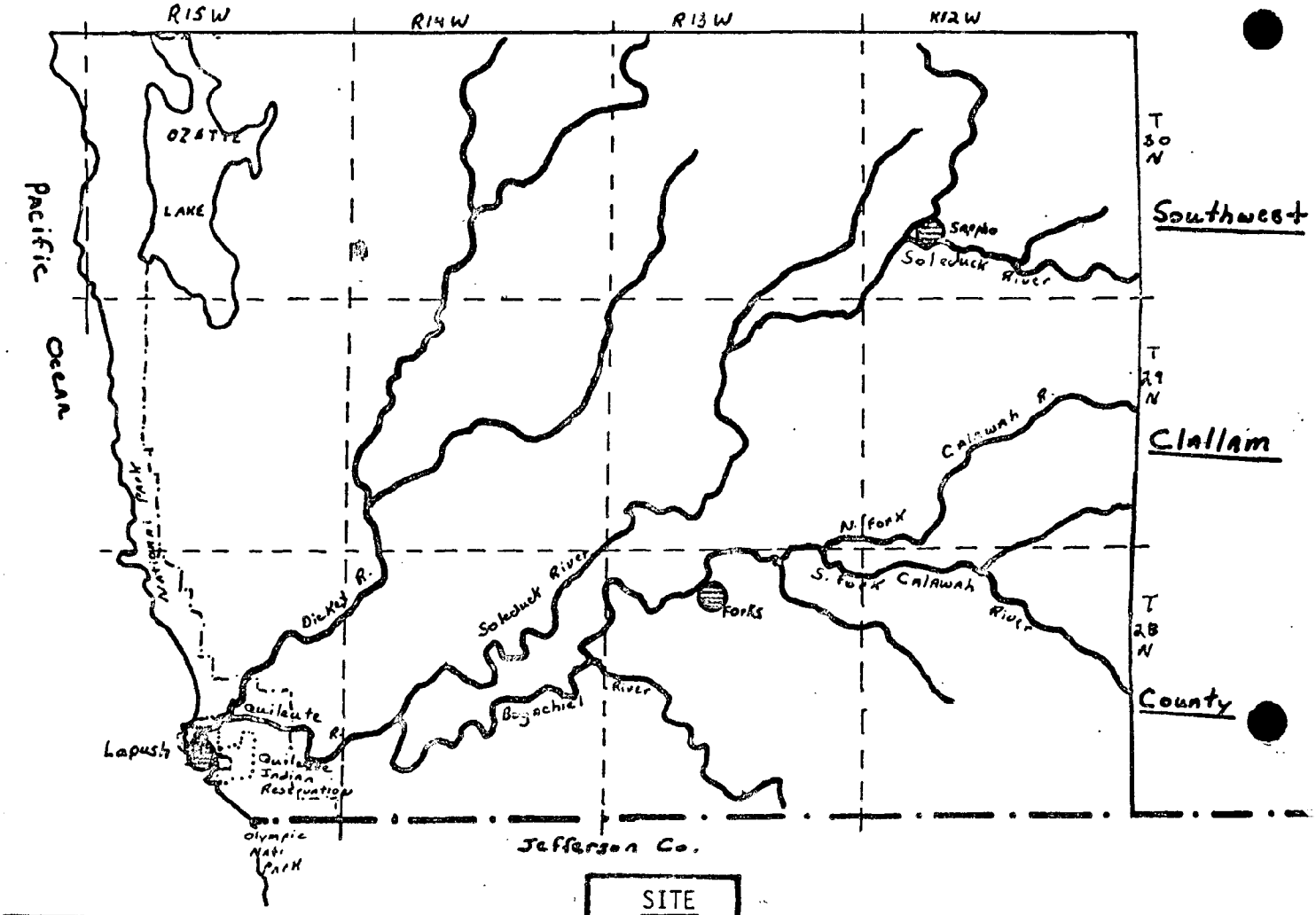
Suitability: ( ) suitable ( ) suitable with modification (X) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost
( ) other

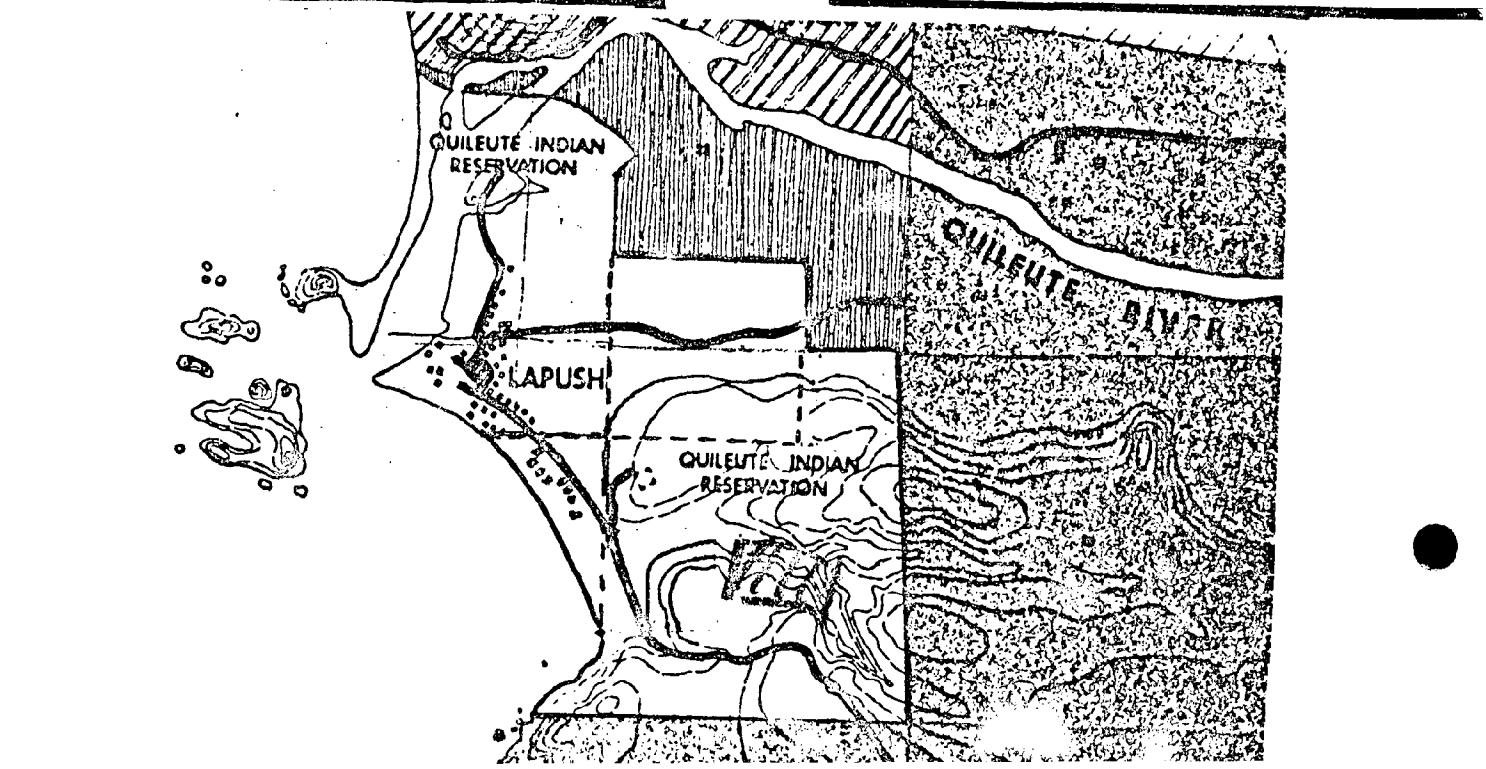
Comments: No mappable data but identifies flow rates (cfs) for Lonesome Creek drainage. Refers to erosion/sediment hazard for fish hatchery 3/4 mile downstream, due to August,'76 slide that occurred in area: summer - 2 - 3 cfs
winter maximum - 20 cfs

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name BB

Date 6/11/78

DATA SURVEY FORM

I. Variable Name Mean Annual Runoff in Inches

II. Source Pacific NW River Basins Commission, Comprehensive Framework Study, Appendix XVI, 1972 Page Fig. 2, p. 25.

III. Contact Person/ Location of Data WWU Library (WESTERN WASHINGTON UNIVERSITY)

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 40 miles
3. Contour interval:
4. Level of detail: State of Washington (minimum geographic area)
5. Agency that generated data: Same as source agency above
6. Date data produced: 1970 conditions
7. Classifications of data:
   a. Number
   b. Listing
8. Is data available? (x) Yes ( ) No
9. Cost of data:

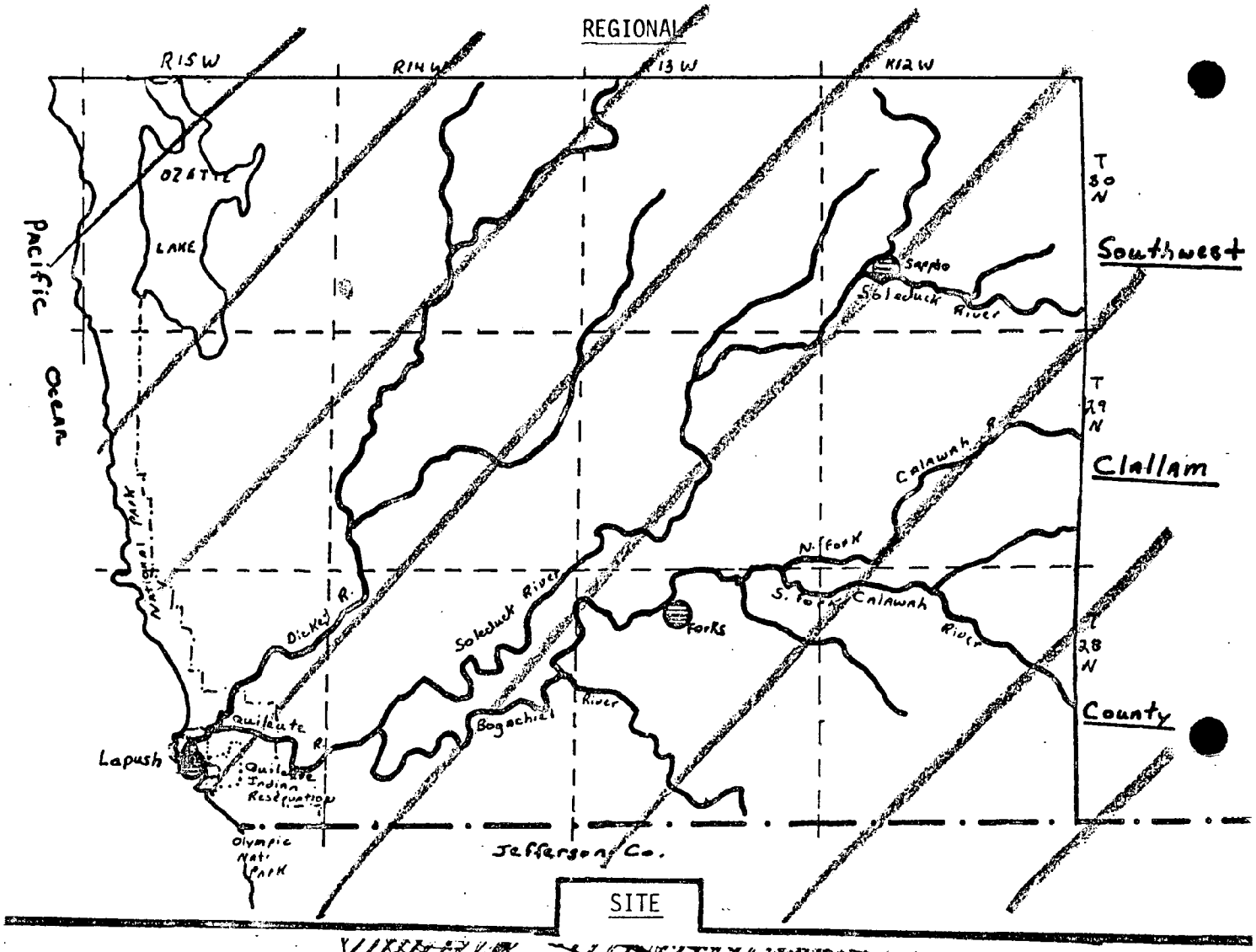
EVALUATION

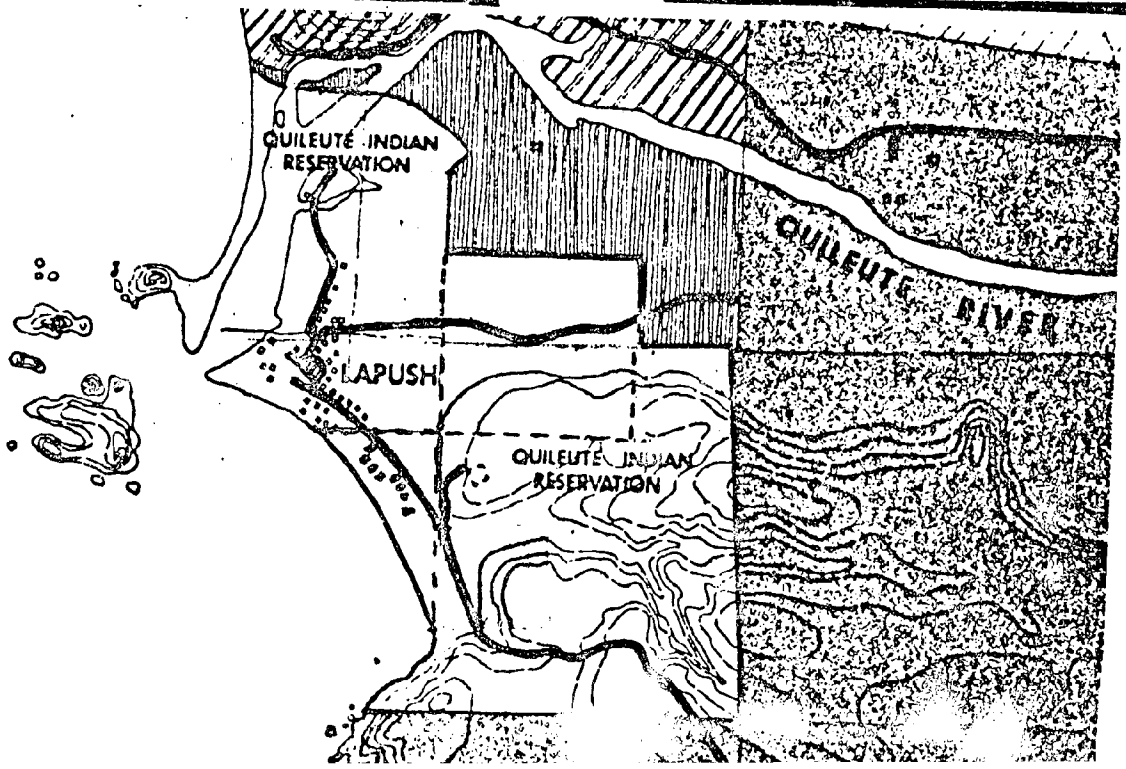
Suitability: ( ) suitable ( ) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale ( ) accuracy ( ) availability ( ) cost ( ) other

Comments: Very general (entire state), suitable for regional analysis only.

GEOGRAPHICAL REFERENCE AND COVERAGE





Southside
Community
Consultants

Name KG

Date 6/9

DATA SURVEY FORM

I. Variable Name Water Flushing Trends/OCEAN CURRENTS OFF La Push

II. Source CH2M Hill, Sewer Facilities Plan, 1975 Page 66

III. Contact Person/ Location of Data available at tribe

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 600'
3. Contour interval: NA
4. Level of detail: schematic (minimum geographic area)
5. Agency that generated data: CH2M Hill
6. Date data produced: 1975
7. Classifications of data:
   a. Number
   b. Listing longshore current and water circulation
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

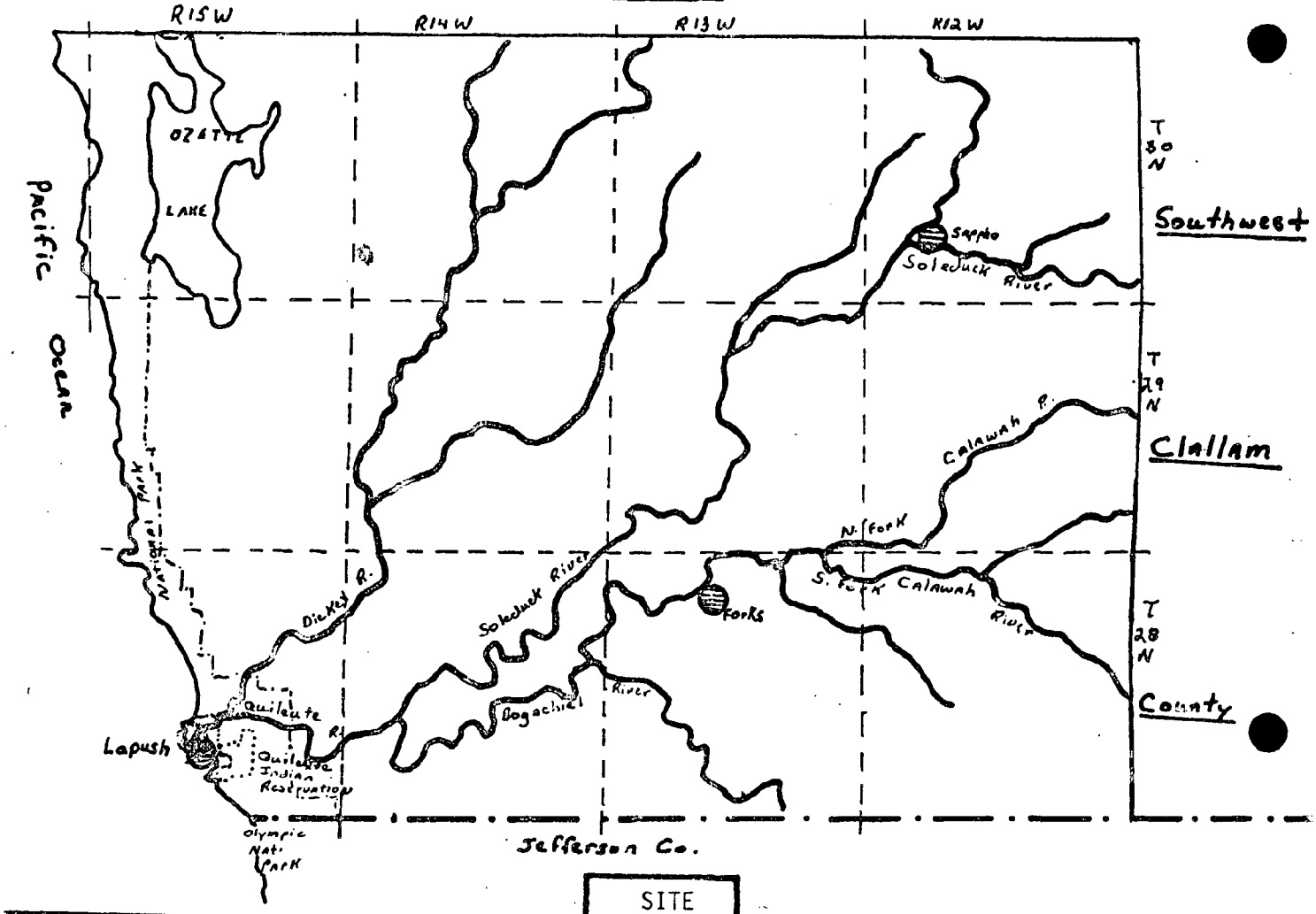
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other source not known

Comments: Should be checked.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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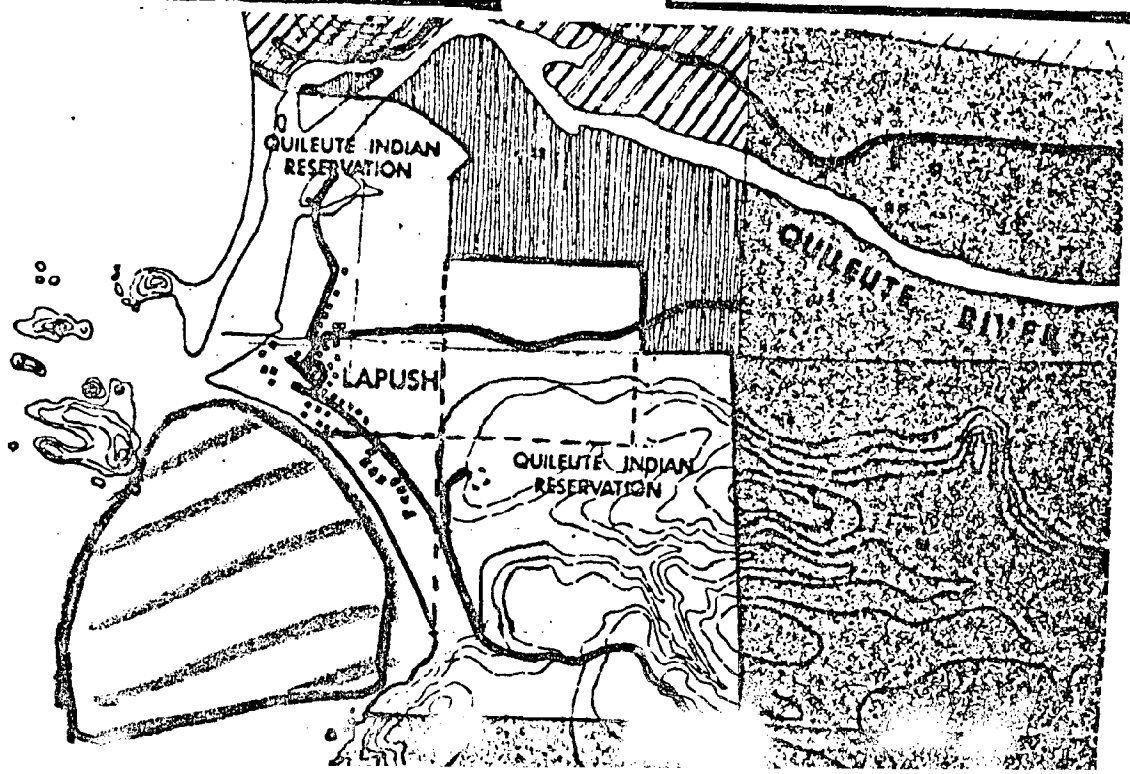

Southside
Community
Consultants

Name B.B.

Date 6/17/78

DATA SURVEY FORM

I. Variable Name Watershed Management, Policy Information -

II. Source Industrial discharges/Quileute River & Estuarine Waters; ENCON, North Olympic Coastal Basin Water Quality Management Plan, 1975. Page 303(E) Addendum pp. 16-17

III. Contact Person/ Location of Data City Library, Port Angeles; Clallam Co. Planning Office

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CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: NA
3. Contour interval: NA
4. Level of detail: for Quileute River Basin area (minimum geographic area)
5. Agency that generated data: ENCON for Dept. of Ecology & Environmental Portection Agency.
6. Date data produced: 1974
7. Classifications of data:
   a. Number 1
   b. Listing types of point sources of effluent into River.
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

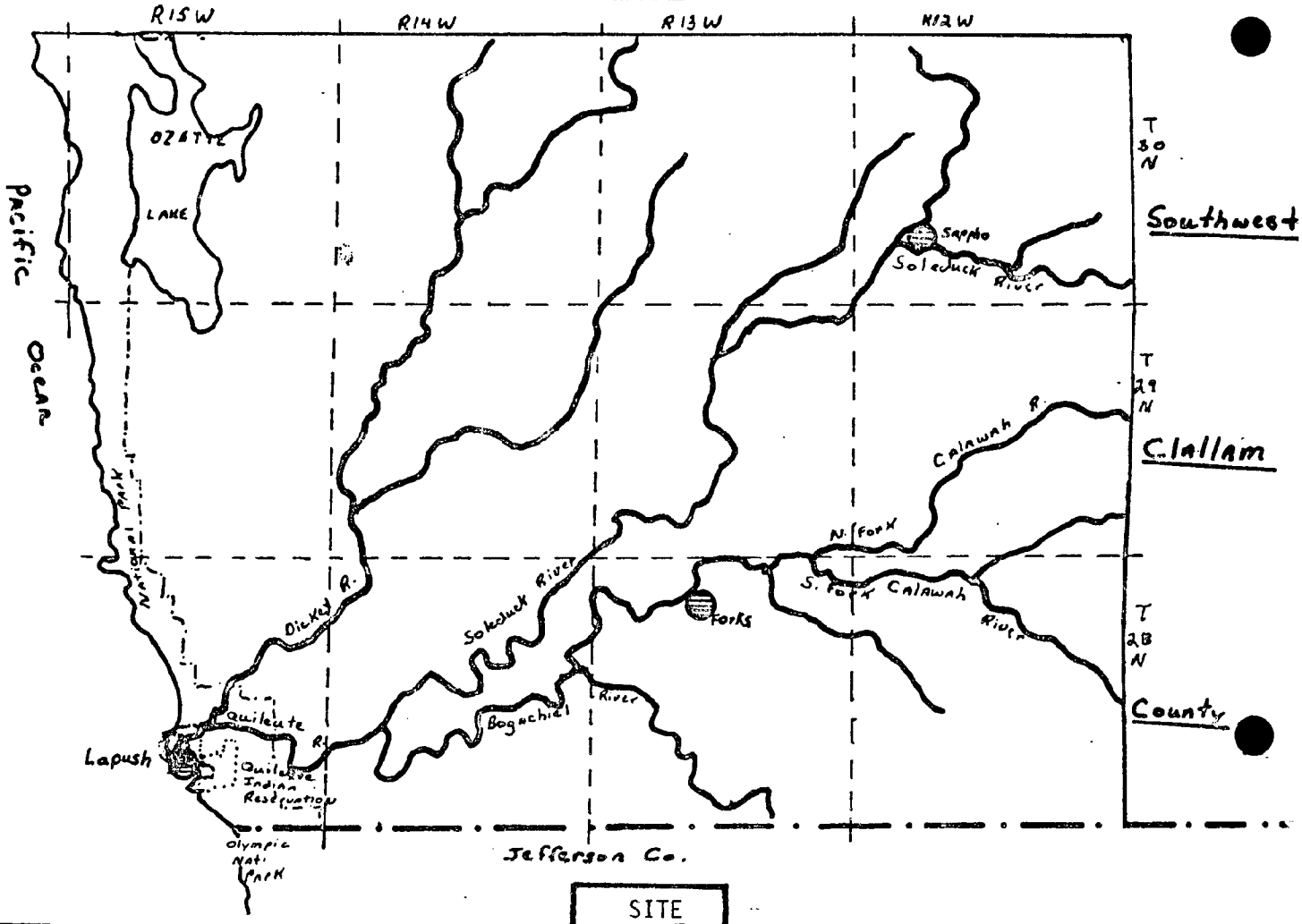
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other

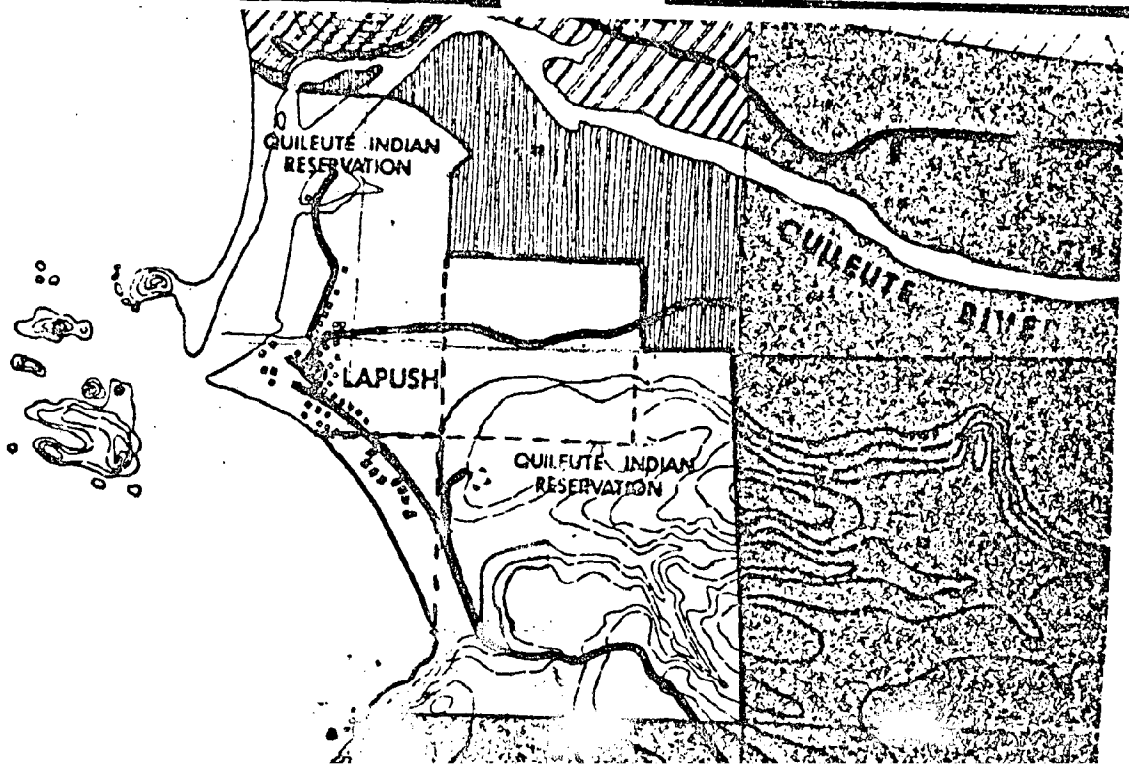
Comments: No information mapped; significance of effluent upon water quality of river water not identified.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/12

DATA SURVEY FORM

I. Variable Name Sediment Yield/River Systems in Region

II. Source Pacific NW River Basins Commission, Page Fig. 766
Comprensive Framework Study, Appendix V,
1970

III. Contact Person/
Location of Data WWU Library

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1" = 35 miles

3. Contour interval: NA

4. Level of detail: regional
(minimum geographic area)

5. Agency that generated data: ?

6. Date data produced: 1968

7. Classifications of data:
   a. Number 5
   b. Listing Classes of sediment yield categories .02-4.0 acre ft./mi.^{2}/yr.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

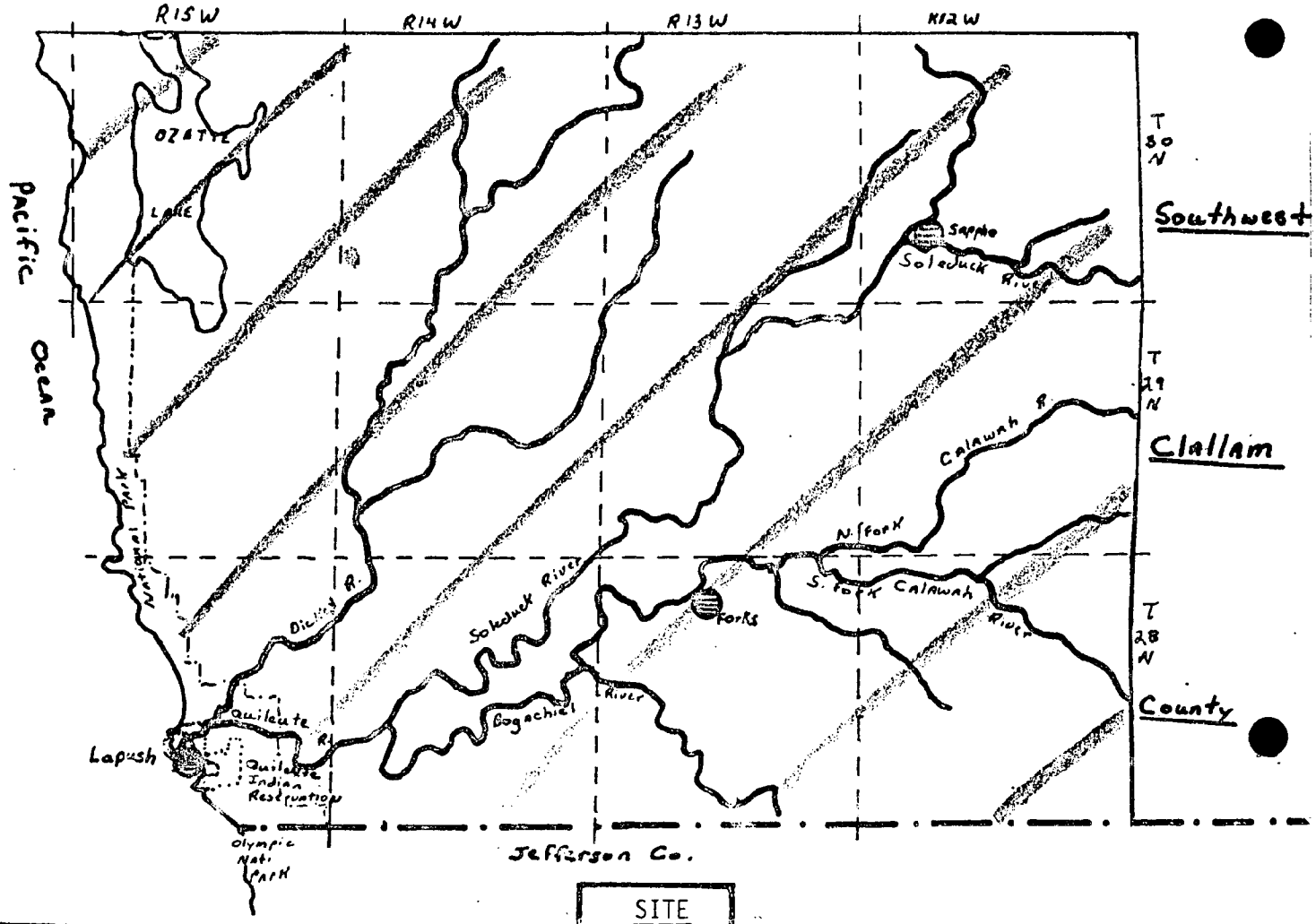
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other

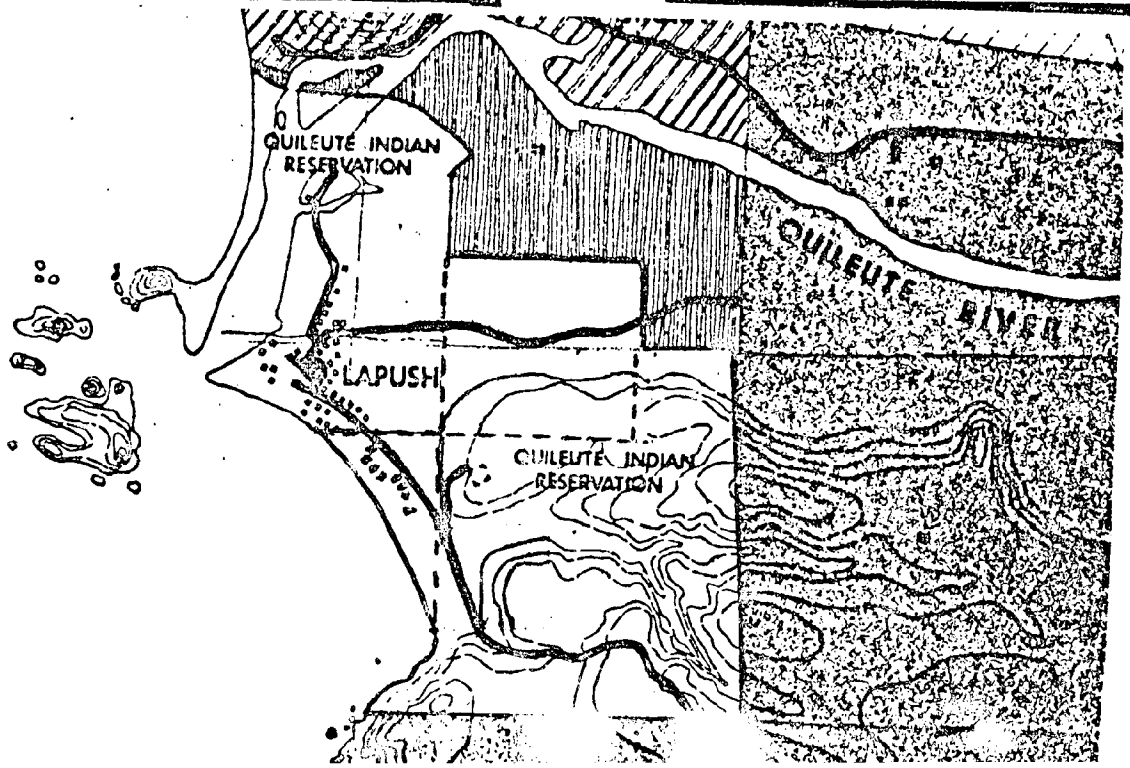
Comments: Not mappable at reservation scale but useful information.
Studies have shown that road development associated with forest utilization and bank cutting along major streams were the main sources of suspended sediment.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 5/31/78

DATA SURVEY FORM

I. Variable Name Hydrological Features

II. Source U.S. Army Corps of Engineers, Washington Environmental Atlas, 1975 Page 14

III. Contact Person/ Location of Data Clallam Co. Planning Office and City Library, Port Angeles

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CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1:750,000
3. Contour interval: NA
4. Level of detail: general (minimum geographic area)
5. Agency that generated data: Corps of Engineers
6. Date data produced: 1975
7. Classifications of data:
   a. Number 10
   b. Listing rivers and estuary on site
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

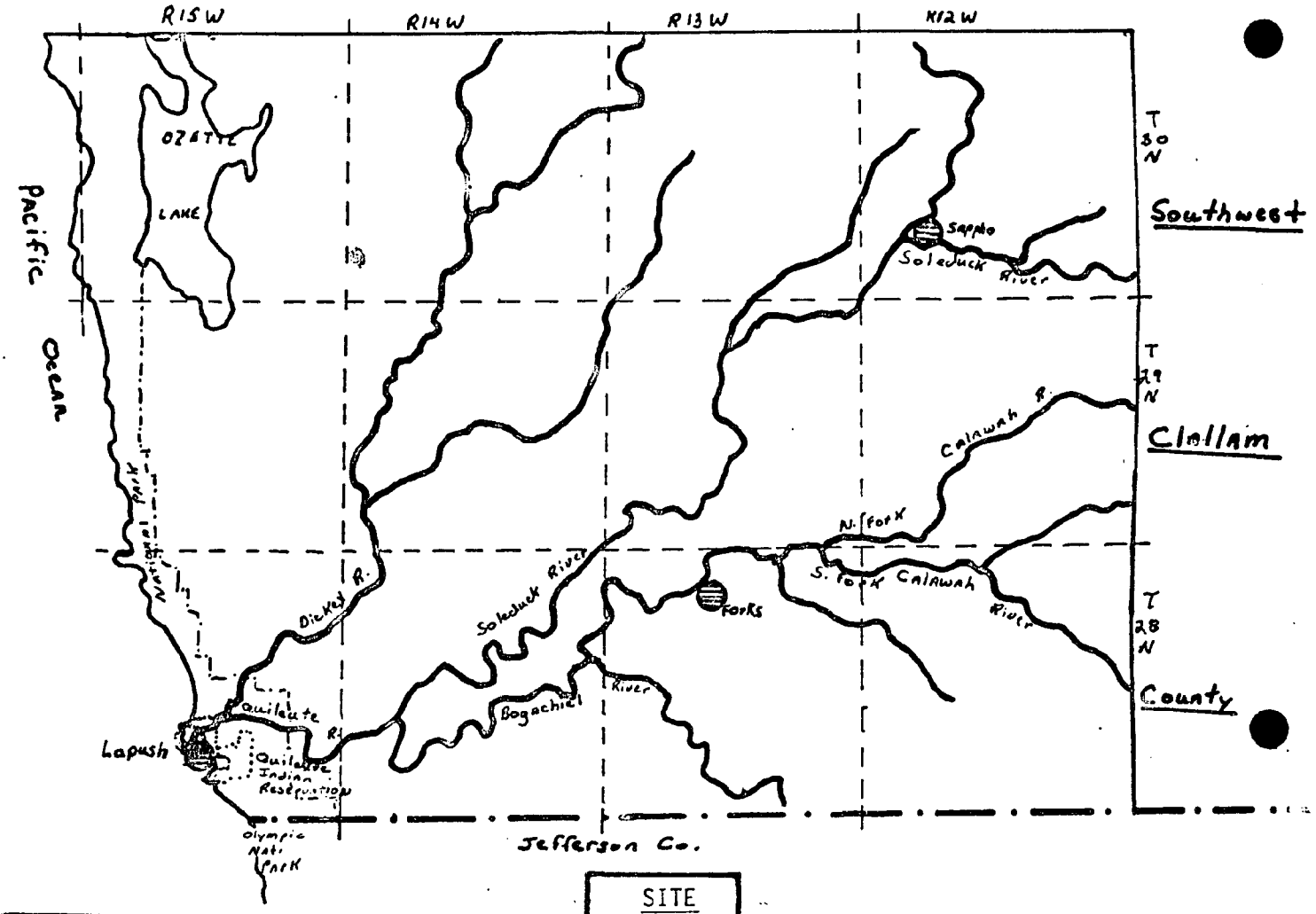
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale ( ) accuracy ( ) availability ( ) cost ( ) other too general

Comments: Regional geographic coverage, not even suitable for regional analysis specific sites located by arrow and key.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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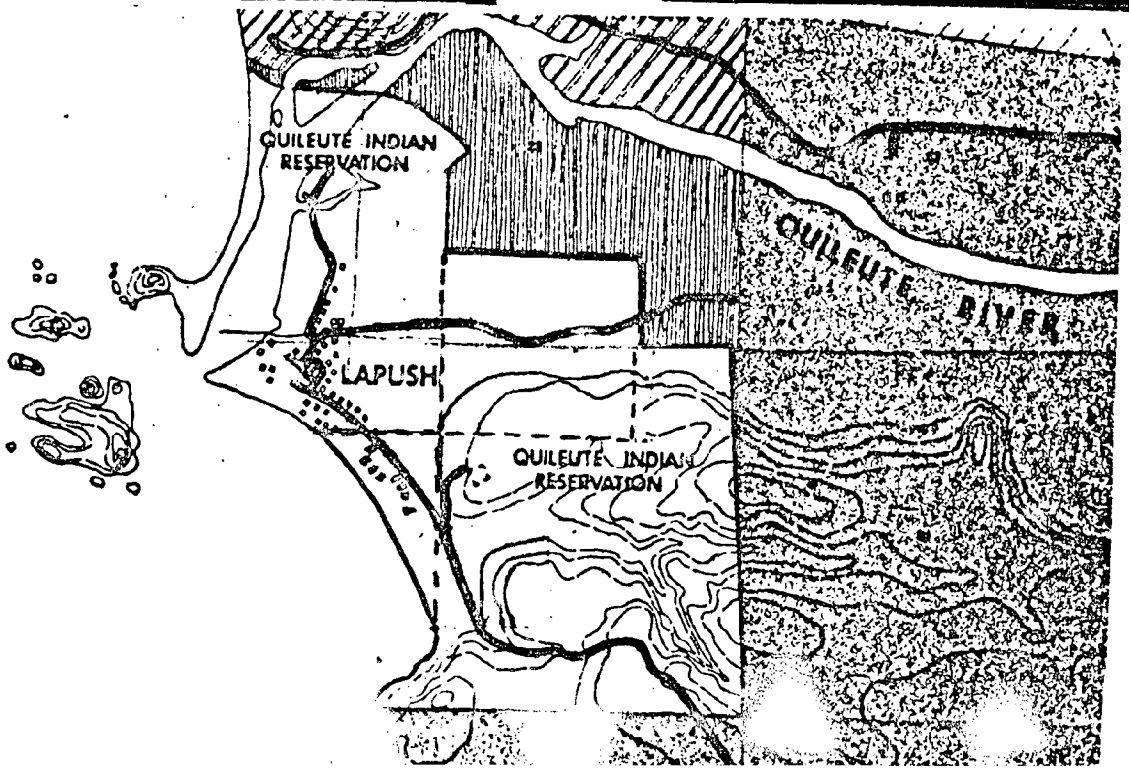


Southside
Community
Consultants

Name KG

Date 5/31

56

DATA SURVEY FORM

I. Variable Name Biological Life Zones and Species Habitats

II. Source Army Corps of Engineers Page 15-21
Washington Environmental Atlas, 1975

III. Contact Person/
Location of Data Clallam Co. Planning, City Library, Port Angeles

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1:750,000

3. Contour interval: NA

4. Level of detail: very general
(minimum geographic area)

5. Agency that generated data: Corps of Engineers

6. Date data produced: 1975

7. Classifications of data:
   a. Number 8
   b. Listing Arctic, Canadian, Hudsonian, Humid Transition Timber, Humid Transition Prairie, Sonoran, Arid Transition Timber & Grassland.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

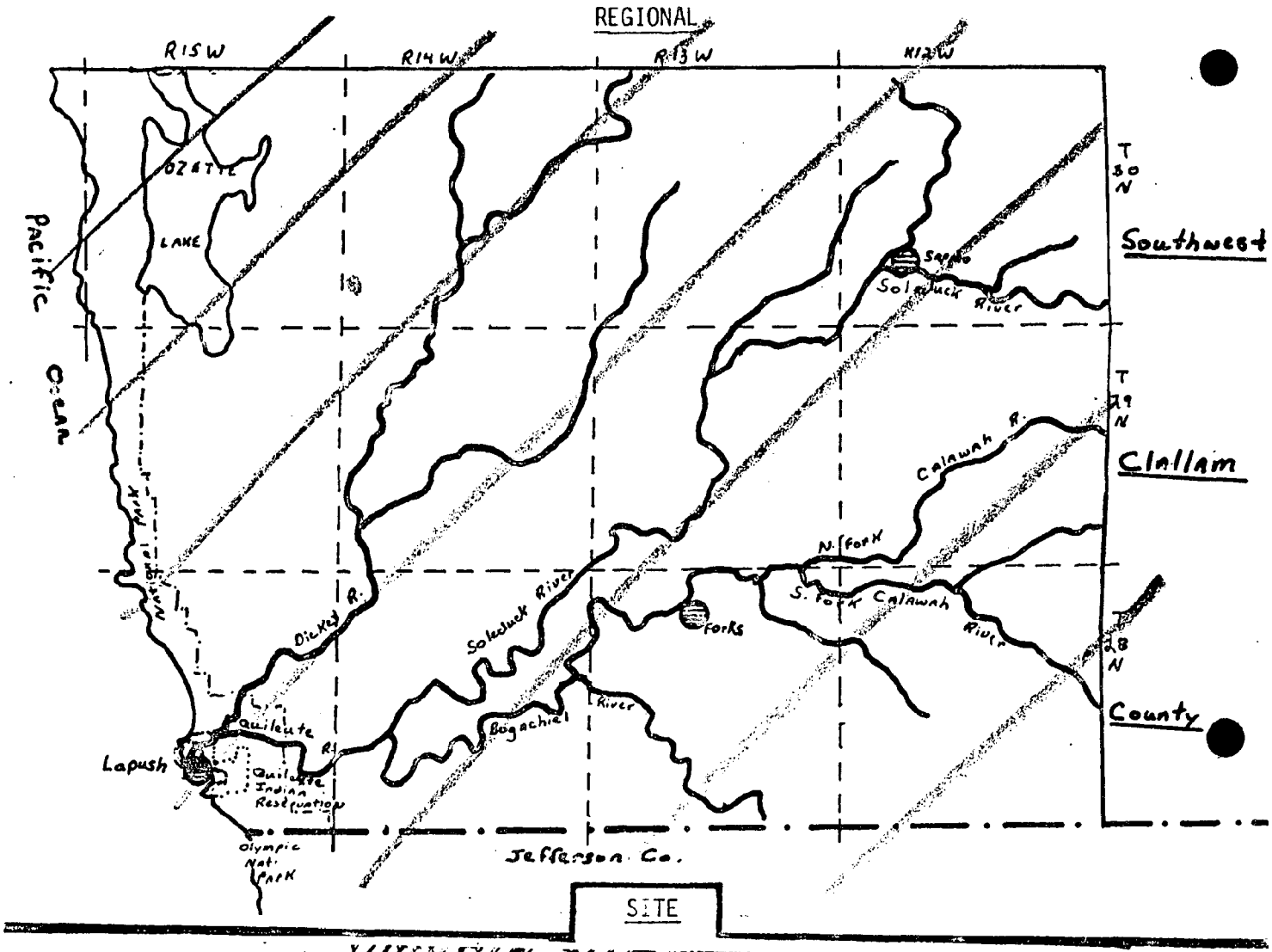
EVALUATION

Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale ( ) accuracy ( ) availability ( ) cost
( ) other

Comments: Whole western portion of penninsula is within humid transition (timbered classification). Habitat matrix is provided to equate broad type habitats with life zones and equate specific species with life zones and habitats. Suitable for regional analysis.

GEOGRAPHICAL REFERENCE AND COVERAGE



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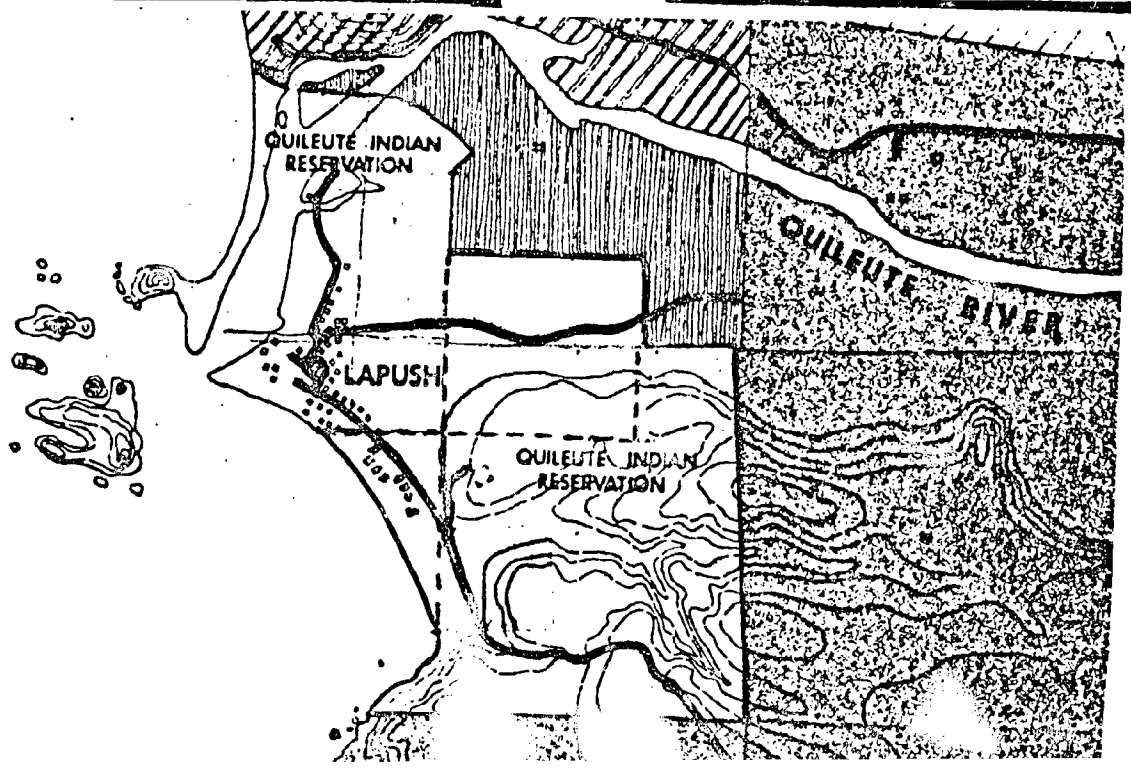


Southside
Community
Consultants

Name KG 51

Date 6/3

DATA SURVEY FORM

I. Variable Name Natural History (Biological Habitat)

II. Source Corps of Engineers, Environmental Evaluation - Quileute River Spit Restoration Project, 1974 Page 32-38

III. Contact Person/ Location of Data provided by tribe

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: NA
3. Contour interval: NA
4. Level of detail: (minimum geographic area) reservation
5. Agency that generated data: Corps of Engineers
6. Date data produced: 1975
7. Classifications of data:
   a. Number
   b. Listing Vegetation and animal occurrence in marine tidal area, upper tidal zones, subtidal zone, Quileute Estuary, (species listing)
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

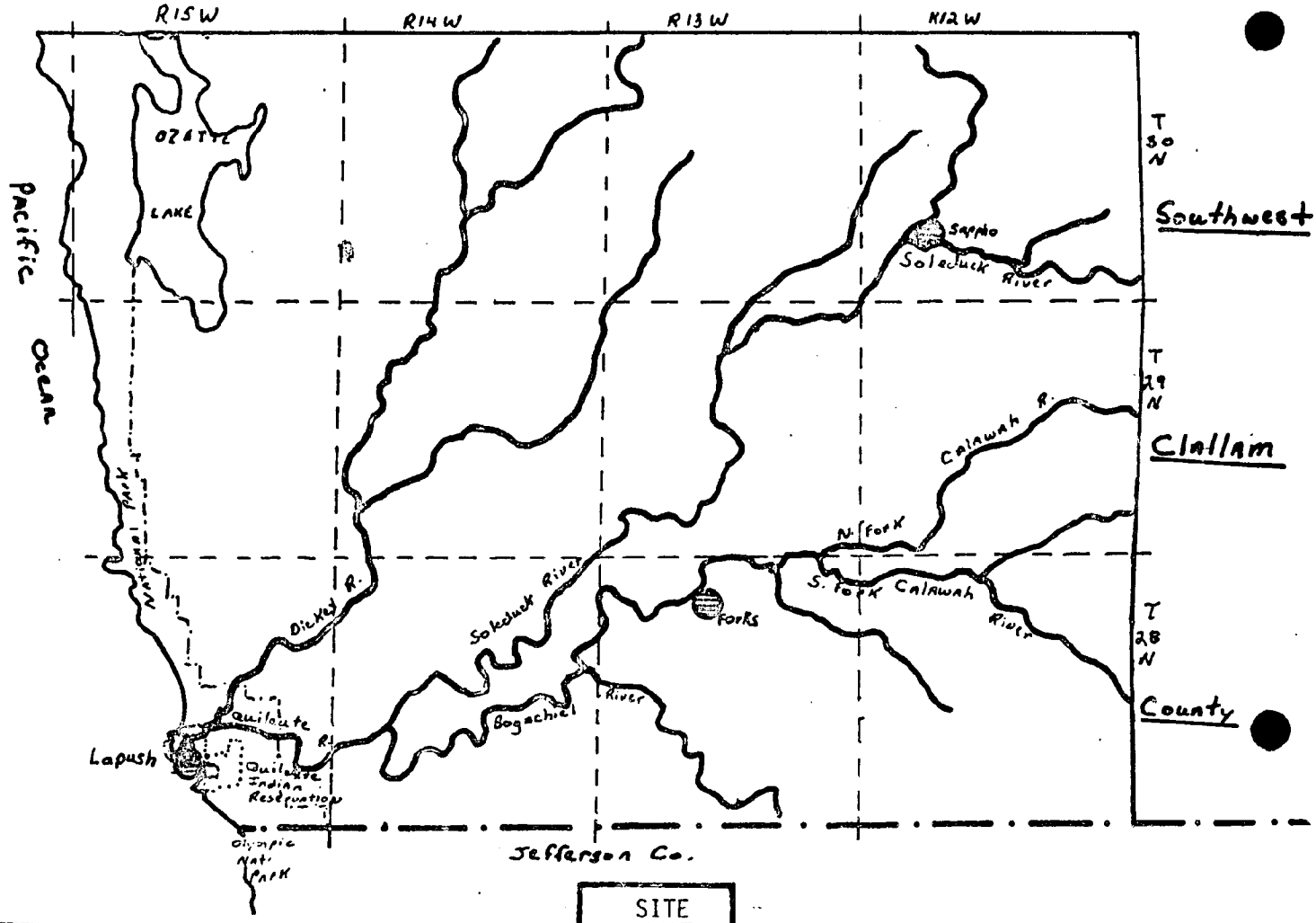
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost (x) other not mapped.

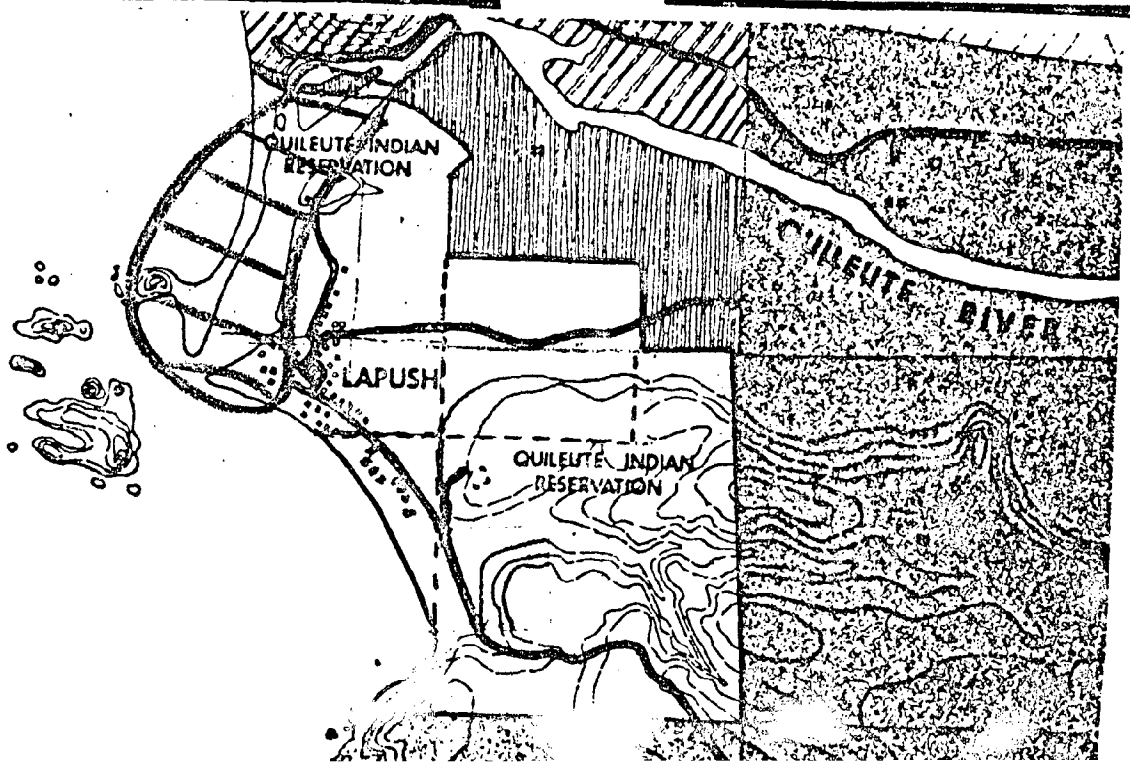
Comments: If we can identify these zones within area and map spatial boundaries it will be useful.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name B. B.

Date 6-15-78

DATA SURVEY FORM

I. Variable Name Biological Surveys; baseline data, ecological studies for State of Washington

II. Source Mathematical Science, Northwest, Inc.
Isakson, J. PO Box 1887, Bellevue, WA 98009
(206) 827-0460
Page

Compendium of Current Environmental Studies in Puget Sound and Northwest ~~Estuaries Waters, 1976. The Oceanographic Institute~~ of Washington

III. Contact Person/
Location of Data

CHARACTERISTICS OF DATA

1. Source format: (X) mapped ( ) air photo (X) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1:12,000

3. Contour interval;

4. Level of detail:
(minimum geographic area)

5. Agency that generated data: Washington State Dept. of Game

6. Date data produced: Aug. 10, 1976 - June 30, 1977

7. Classifications of data:
   a. Number Macrobiotic communities (numerous) - terrestrial and aquatic and marine
   b. Listing plant/animal relationships/types by community; relative abundance - maps specific site and extent of community.

8. Is data available? (X) Yes ( ) No

9. Cost of data: In question

EVALUATION

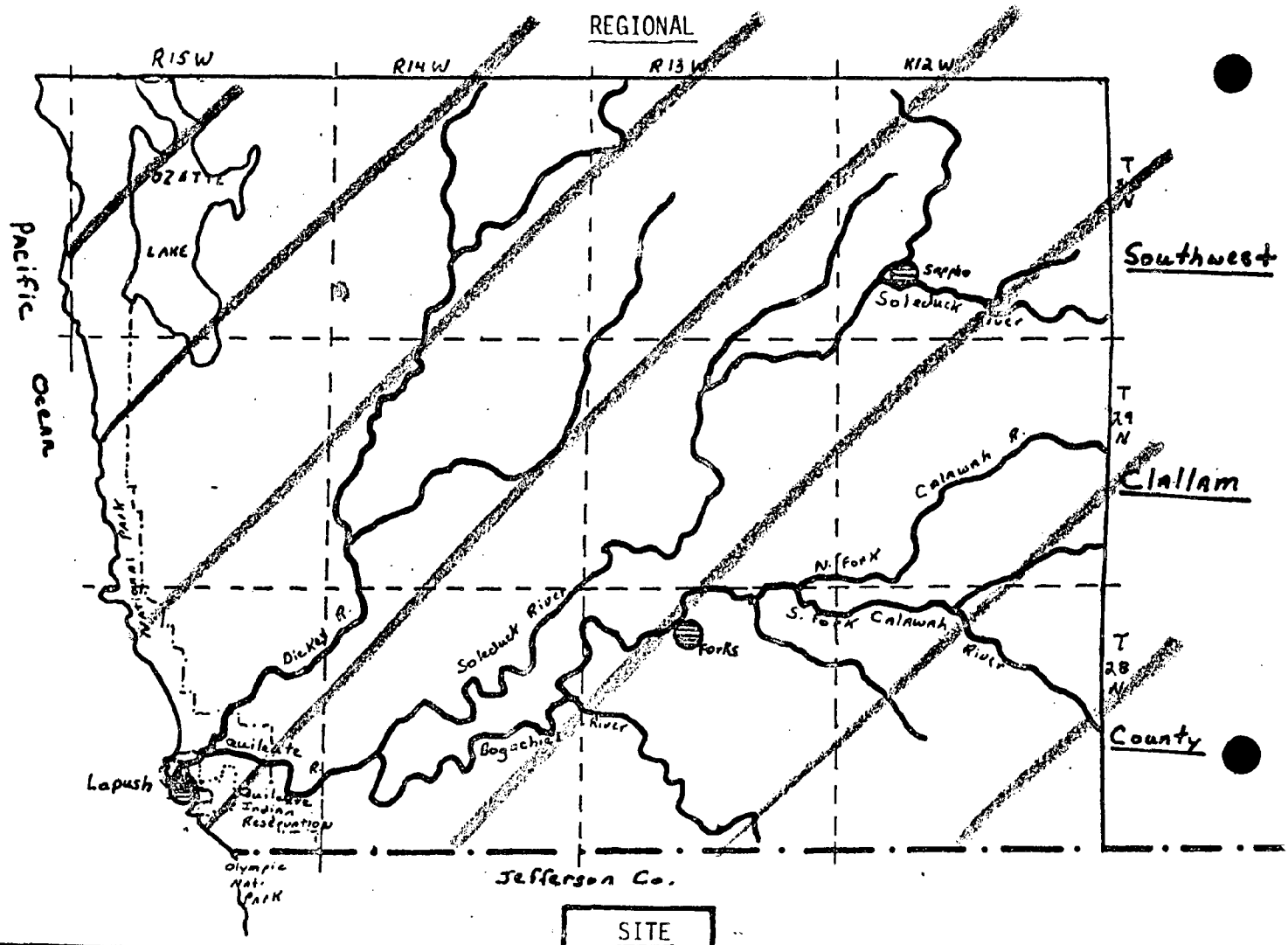
Suitability: (X) suitable ( ) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost
( ) other

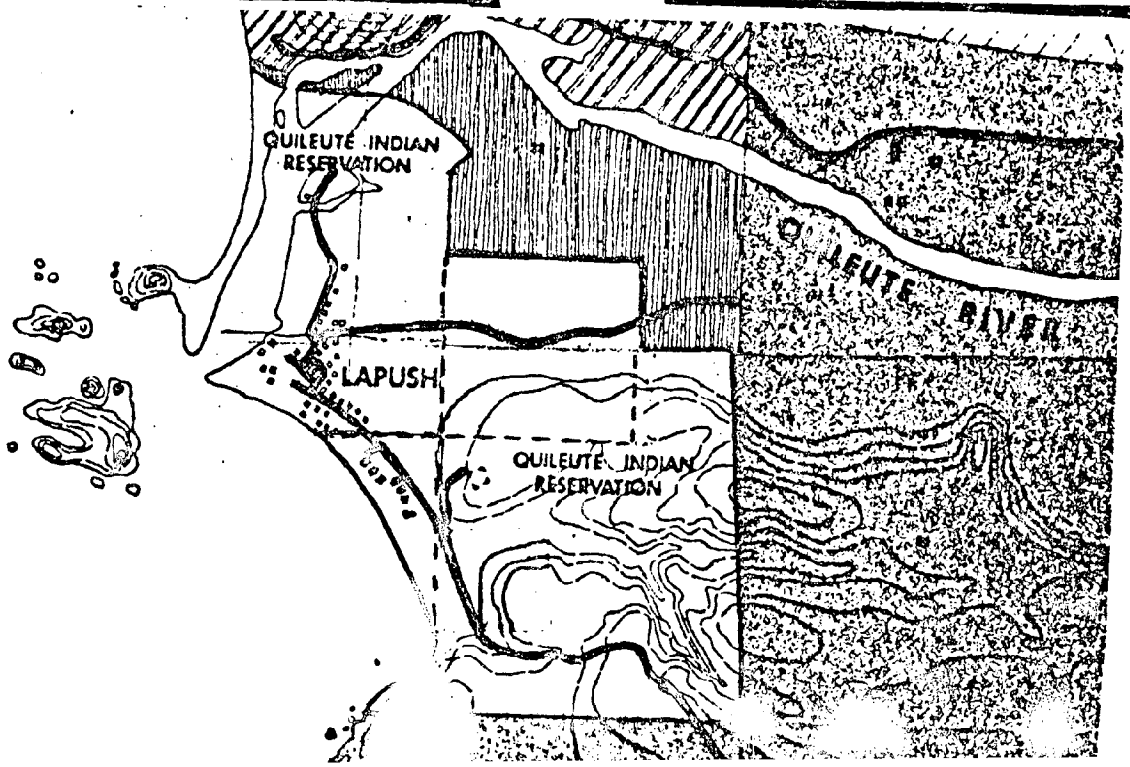
Comments: information if available appears to be ideal scale and degree of specificity - call for further information.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside Community Consultants

Name KG

Date 5/31

DATA SURVEY FORM

I. Variable Name Zoological/Aquatic Features

II. Source U.S. Army Corps of Engineers Page 32

Washington Environmental Atlas, 1975

III. Contact Person/ Location of Data City Library, Port Angeles, Clallam County

Planning Office

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1:750,000
3. Contour interval: NA
4. Level of detail: (minimum geographic area) general - features mentioned by name
5. Agency that generated data: Corps of Engineers
6. Date data produced: 1975
7. Classifications of data:
   a. Number 10
   b. Listing Herring spawning area, andromodous rivers important aquatic habitats are mentioned on site for marine mammals and andromodous fish.
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

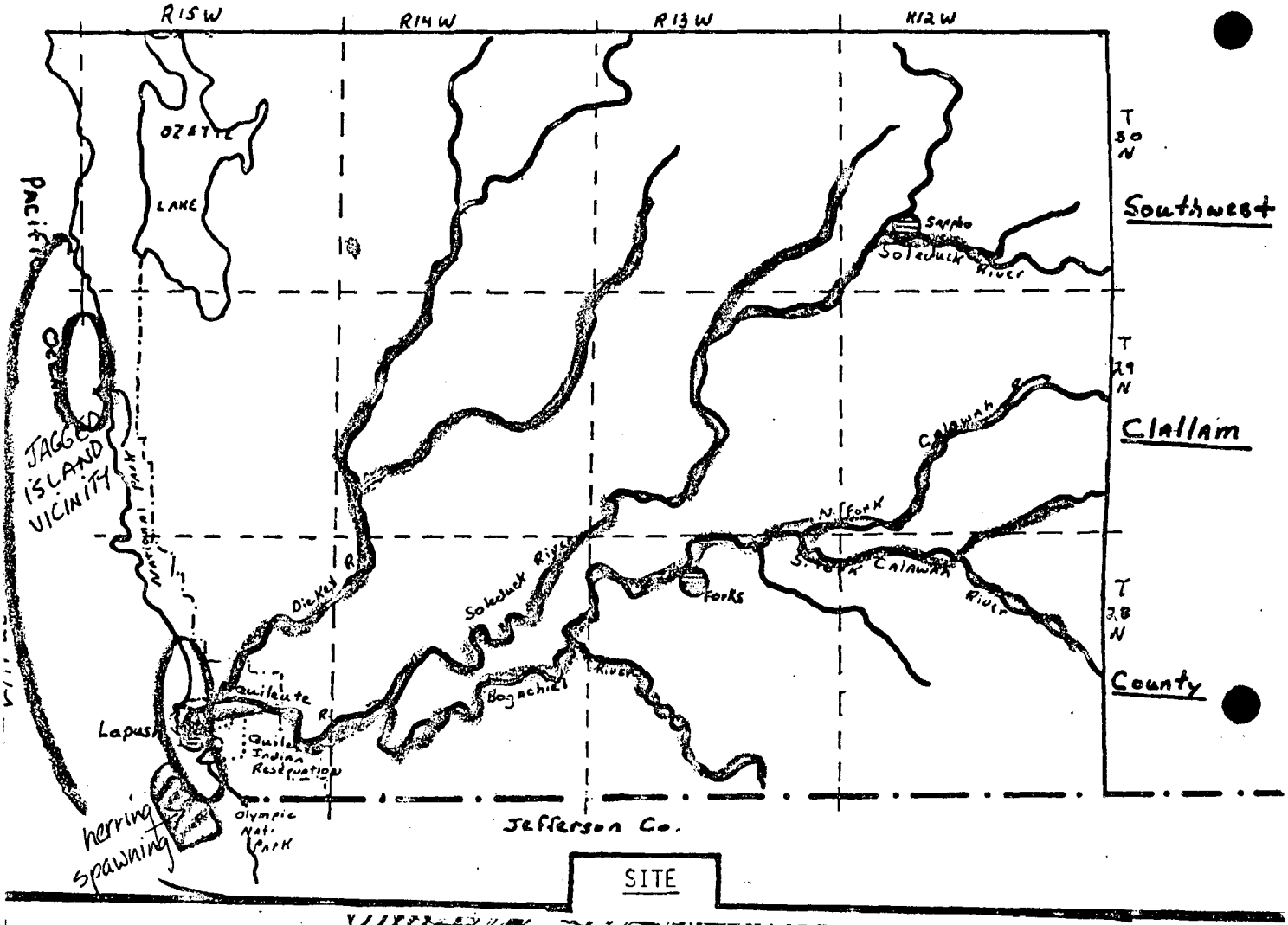
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other not enough precision

Comments: On-site verification required; better for regional analysis.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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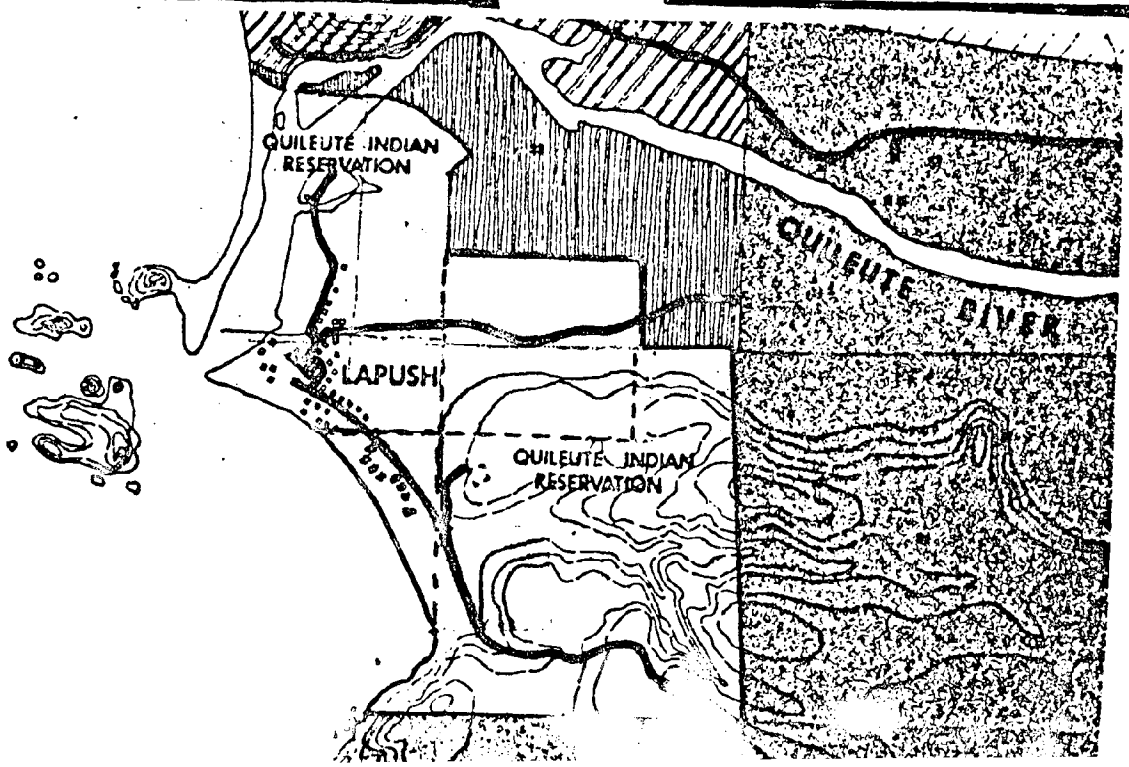


Southside Community Consultants

Name B. B.

Date 6-27-78

DATA SURVEY FORM

I. Variable Name Fish Use of the Quileute Estuary

II. Source U. S. Army Corps of Engineers, Environment Evaluation - Quileute Spit Restoration - Nov. 1974 Page Figure 7

III. Contact Person/ Location of Data provided by tribe

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo ( ) text (x) tabular ( ) digital ( ) other
2. Scale of data: NA
3. Contour interval: NA
4. Level of detail (minimum geographic area): NA
5. Agency that generated data: assumed to be Corps of Engineers
6. Date data produced: ?
7. Classifications of data:
   a. Number Monthly occurrence of 9 commercial fish species
   b. Listing life stages identified - spawner migration; juvenile out migration
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

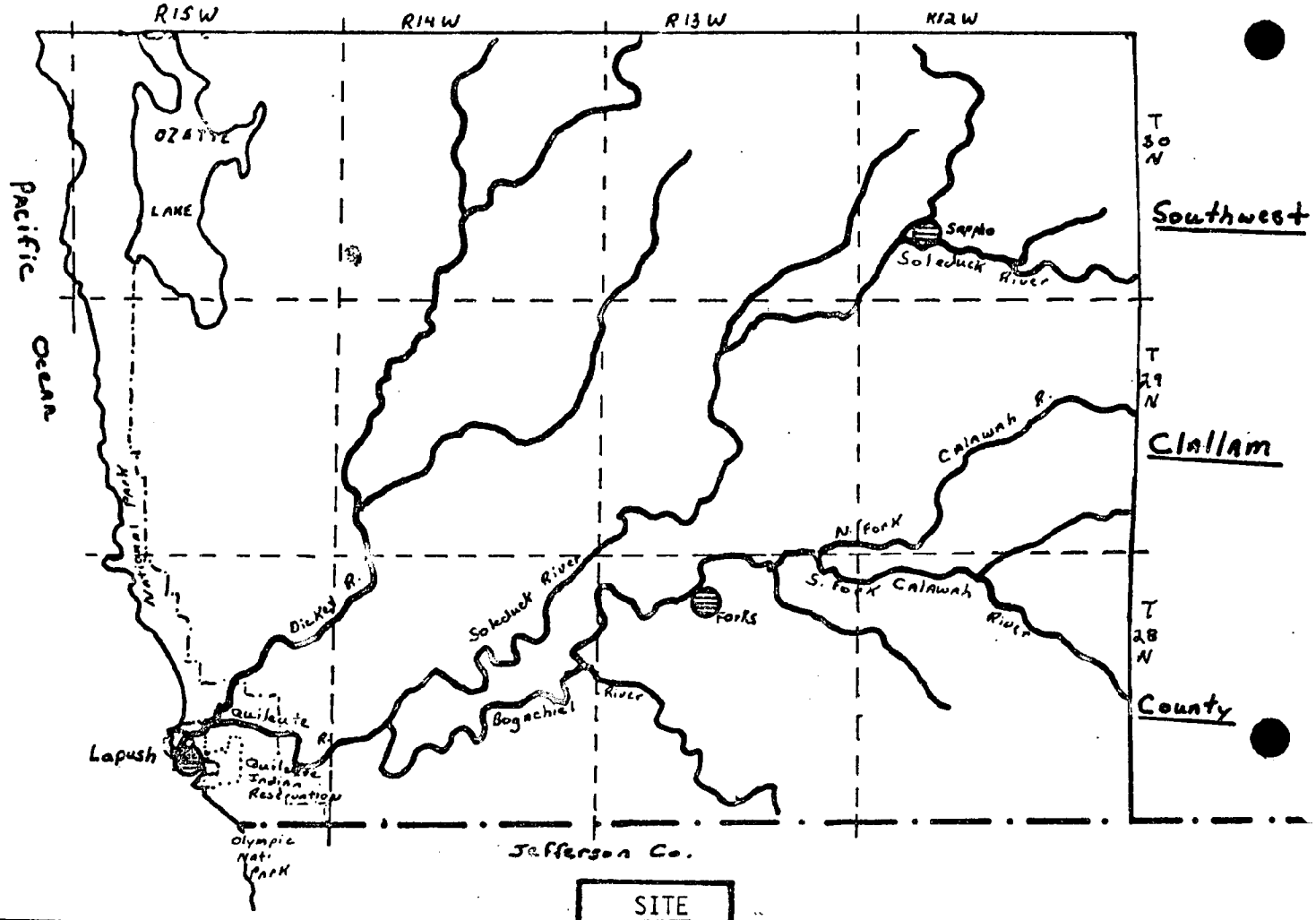
Suitability: (x) suitable ( ) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other

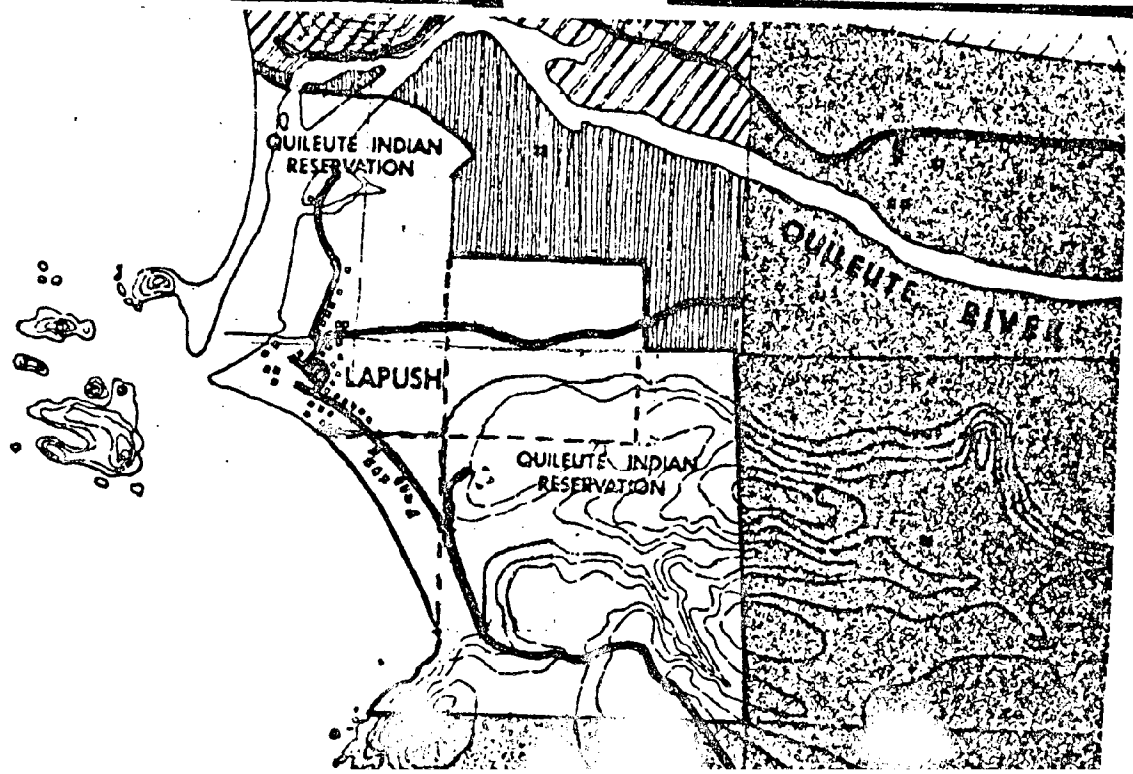
Comments: data not mappable but important information for river and fisheries management.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside Community Consultants

Name B. B.

Date 6-27-78

DATA SURVEY FORM

I. Variable Name Wild Life Habitat - Sea Birds on Coastal Islands

II. Source Corps of Engineers, Environmental Evaluation - Quileute River Spit Restoration Project, 1974 Page 33, 37

III. Contact Person/ Location of Data provided by tribe

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: NA
3. Contour interval: NA
4. Level of detail: (minimum geographic area) NA
5. Agency that generated data: assumed Corps of Engineers
6. Date data produced: ?
7. Classifications of data:
   a. Number by sea bird species - 8 listed; coastal birds - 18 listed
   b. Listing species, feeding habitat; period of migration; residency.
8. Is data available? (X) Yes ( ) No
9. Cost of data:

EVALUATION

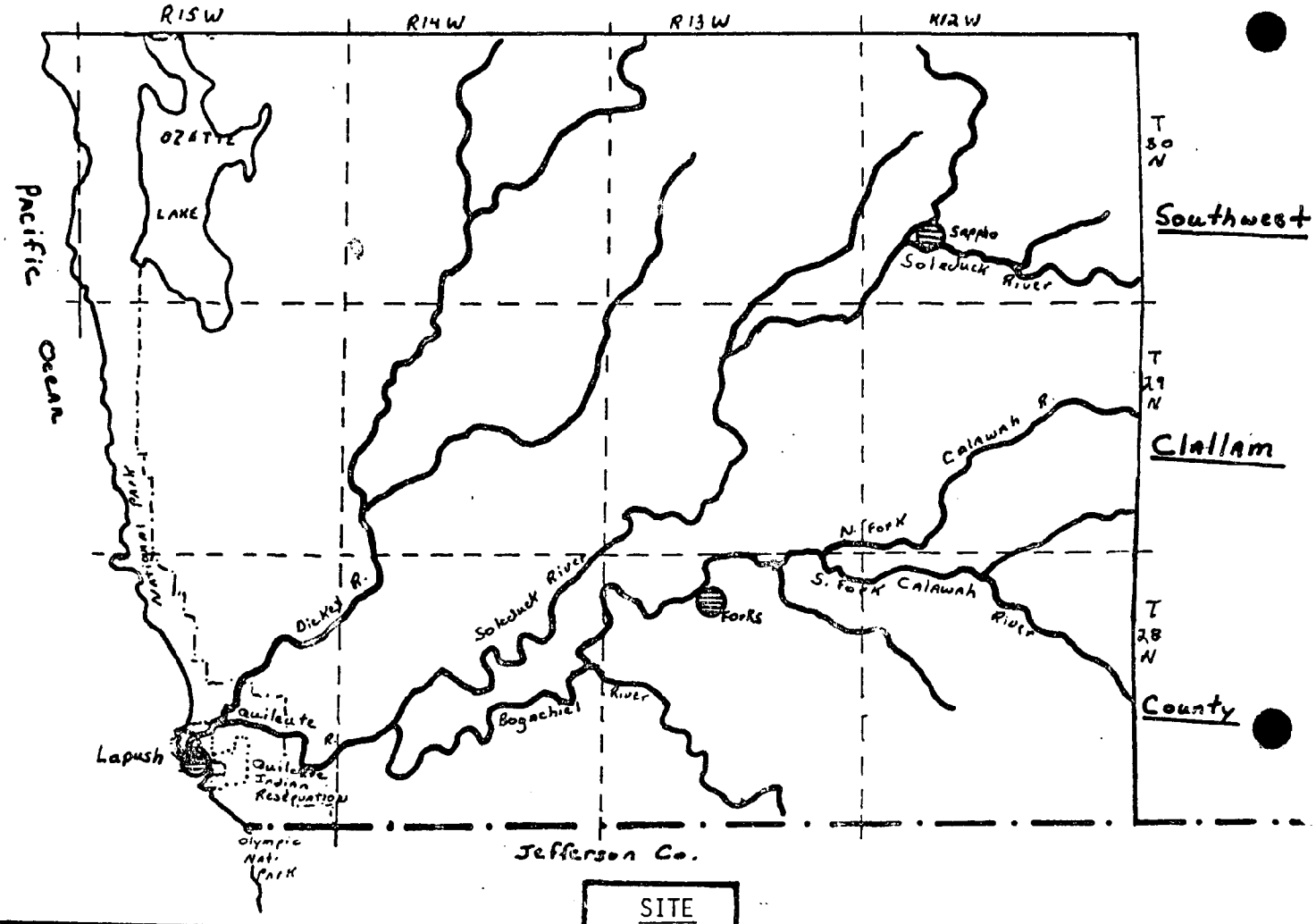
Suitability: ( ) suitable ( ) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other

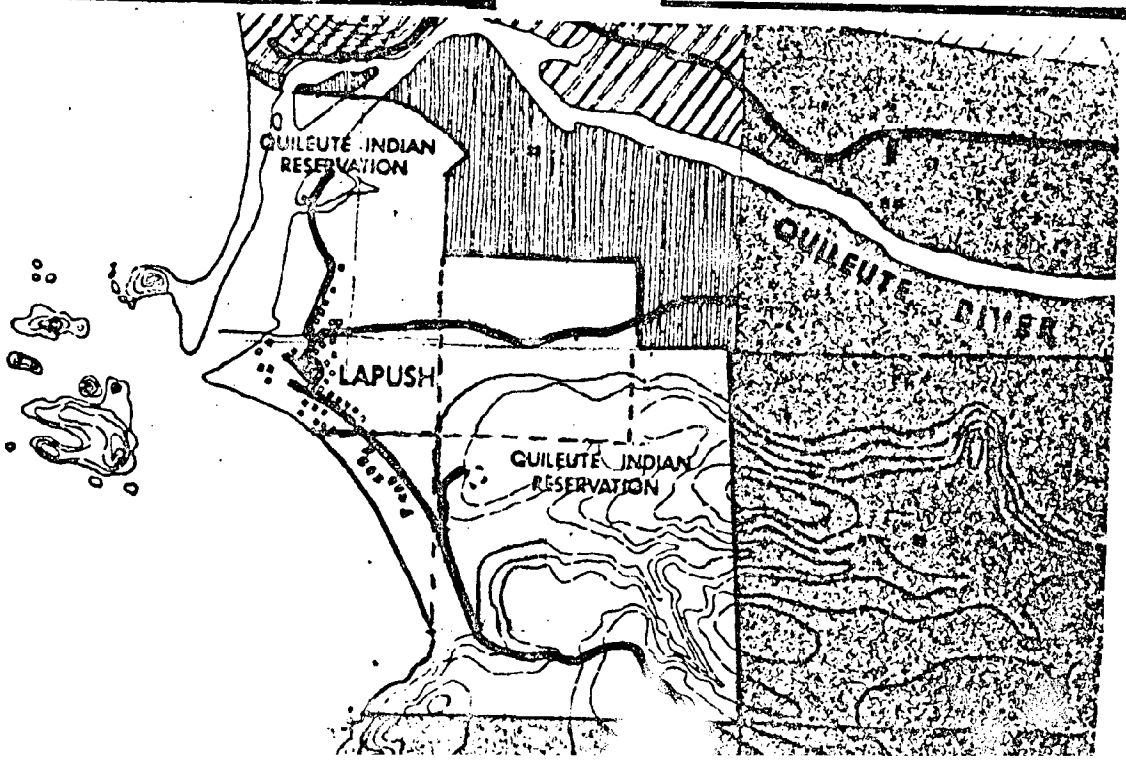
Comments: Information not mapped.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/15/78

DATA SURVEY FORM

I. Variable Name Marine Mammal Habitats

II. Source Johnson & Jeffries, Page

Puget Sound Museum of Natural History,

Unpublished field data, 1977

III. Contact Person/
Location of Data

Clallam Co. Planning Commission

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1:62,500

3. Contour interval: NA

4. Level of detail: sites where mammals observed
(minimum geographic area)

5. Agency that generated data: Puget Sound Museum of Natural History

6. Date data produced: 1977

7. Classifications of data:

a. Number

b. Listing Harbor seals, otters, and sea lions

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

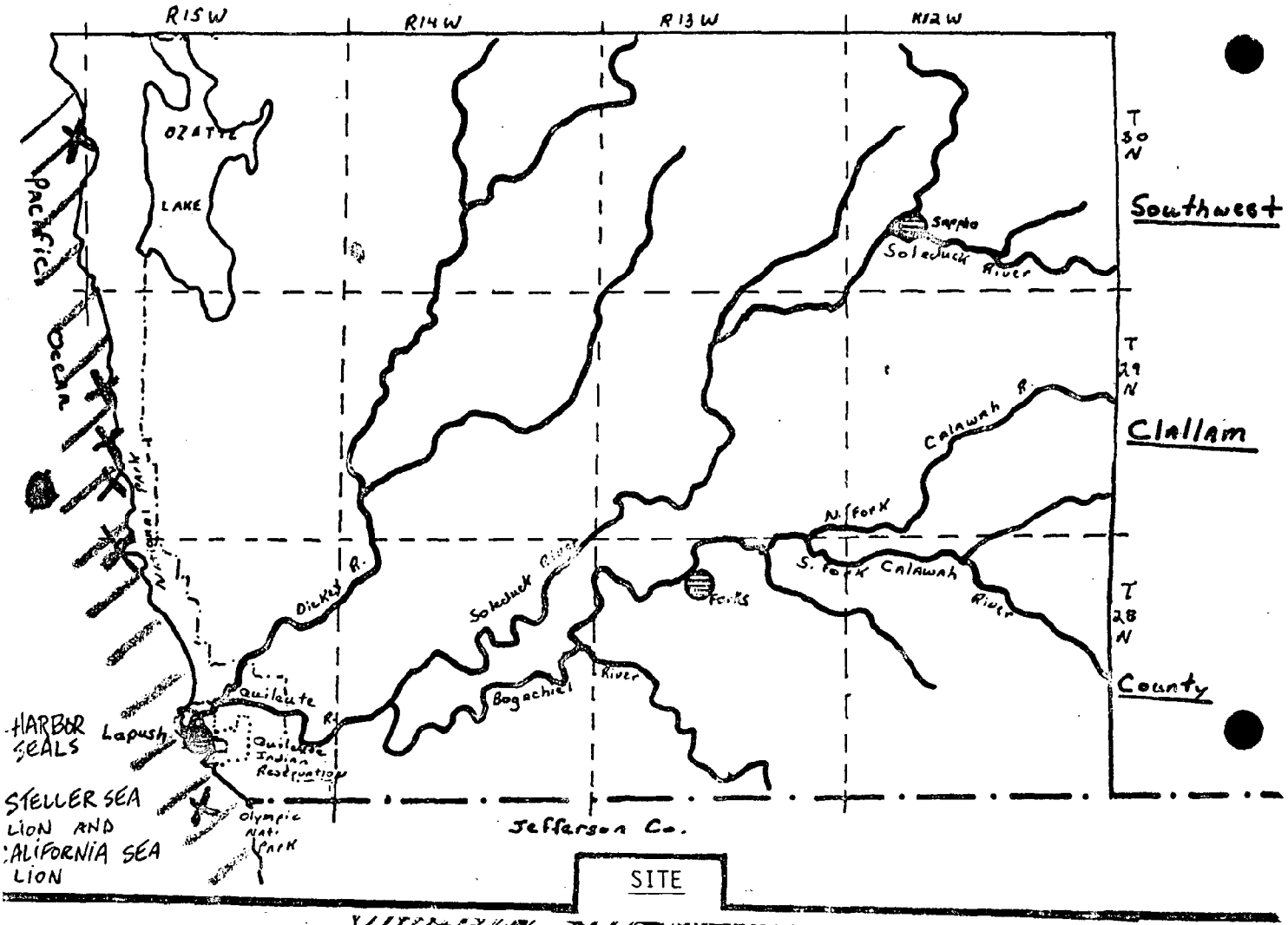
Suitability: (x) suitable ( ) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale ( ) accuracy ( ) availability ( ) cost
( ) other

Comments: Confirms habitat analysis of regional references with on-site survey.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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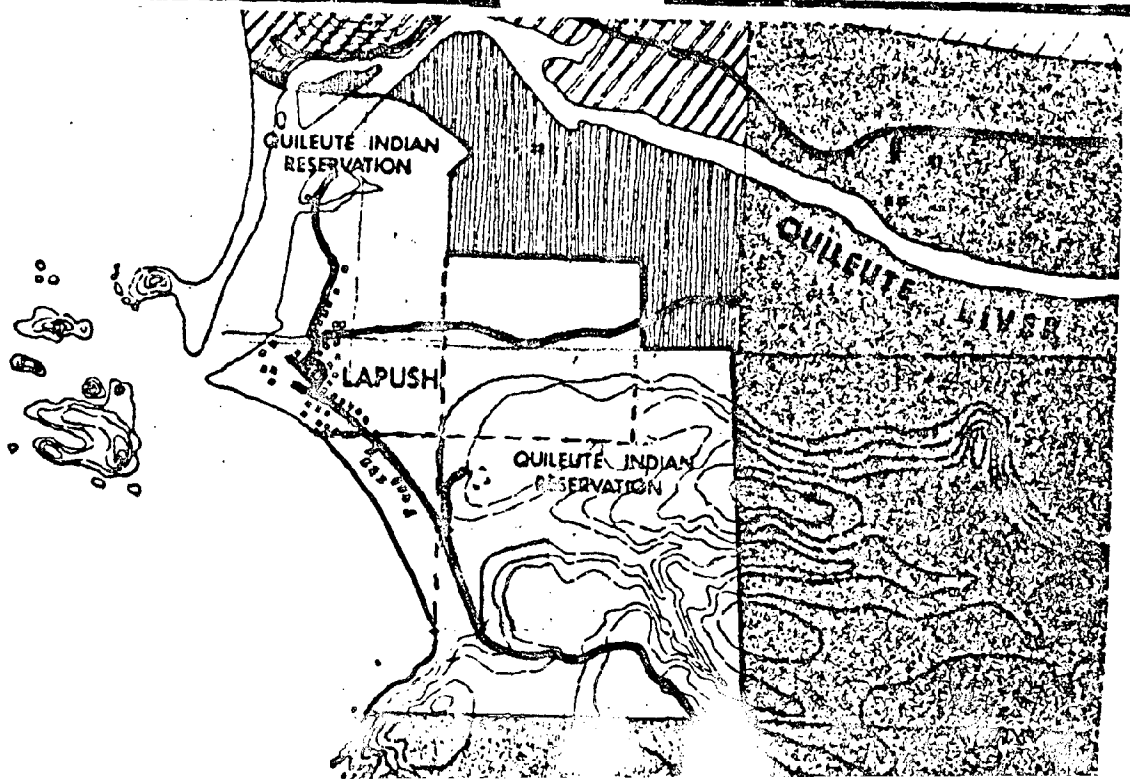


Southside
Community
Consultants

Name KG

Date 5/31

DATA SURVEY FORM

I. Variable Name Zoological/Terrestrial Features

II. Source Army Corps of Engineers Page 38

~~Washington Environmental Atlas, 1975~~

III. Contact Person/
Location of Data

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1:750,000

3. Contour interval: NA

4. Level of detail: very general
(minimum geographic area)

5. Agency that generated data: Corps of Engineers

6. Date data produced: 1975

7. Classifications of data:
   a. Number 5
   b. Listing National wildlife refuges and critical wildlife habitat areas on site.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

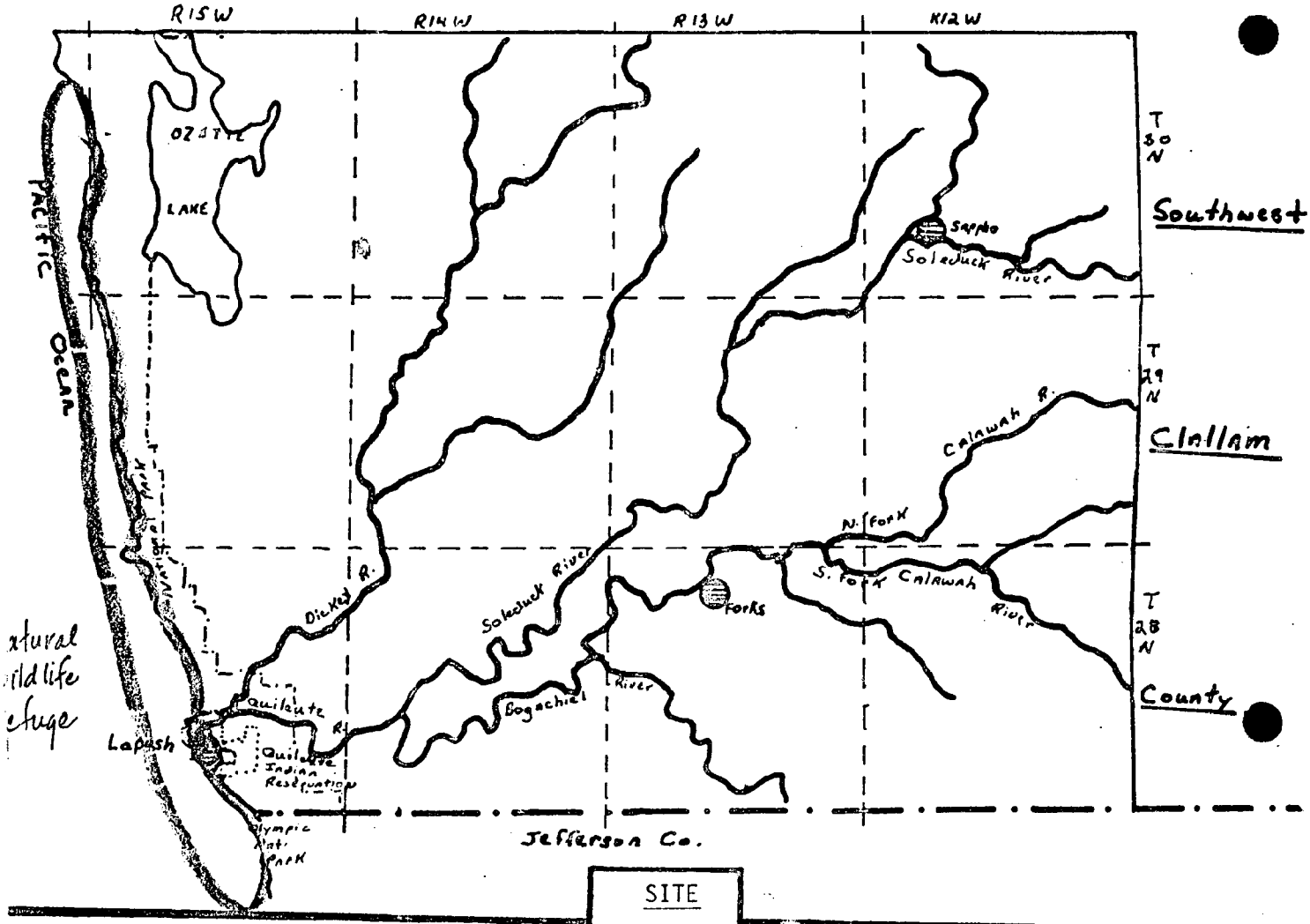
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other

Comments: Regional background data only.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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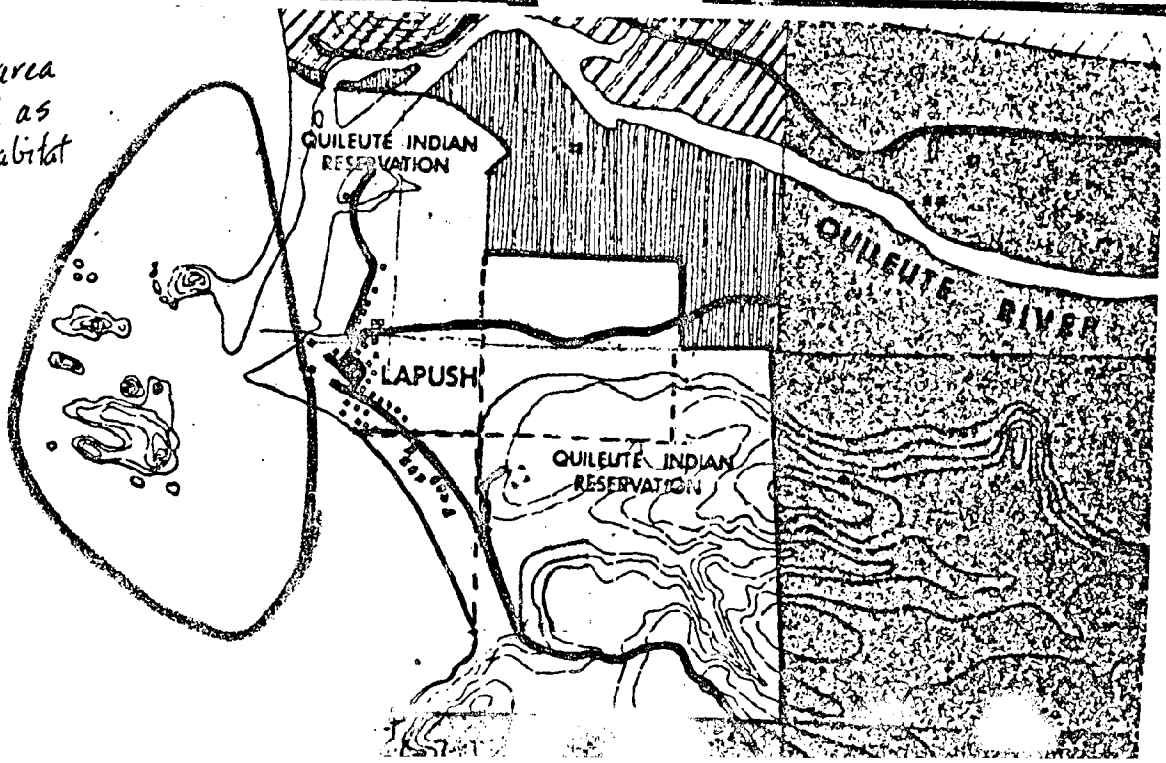
SITE



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Southside
Community
Consultants

Name KG

Date 5/31

DATA SURVEY FORM

I. Variable Name Wildlife Habitats

II. Source U.S. Army Corps of Engineers, Environmental Atlas, Wash. State, 1975 Page 41-53

III. Contact Person/ Location of Data City Library, Port Angeles or Clallam Co. Planning Office

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CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 50 miles
3. Contour interval: NA.
4. Level of detail: (minimum geographic area) general
5. Agency that generated data: Corps of Engineers
6. Date data produced: 1975
7. Classifications of data:
   a. Number
   b. Listing Individual habitat areas for species - cover wh le habitat statewide.
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other

Comments: Specific species mentioned which inhabit site are listed on back. Though they are not located on-site they are known to occur in this area. Suitable for regional analysis and background data. May be implied for site if verified and specific habitats identified.

BIRDS

Red Throated Loon
Western Grebe
Storm Petrel
Western Canadian Goose
Lesser Canadian Goose
Swans
Blue Heron
Goshalk
Cooper Hawk
Bald Eagle
Merlin
American Kestrel
Peregrine Falcon
Blue Grouse
Ruffed Grouse
Sandhill Crane
Snipe
Band Tailed Pigeon
Rhinocerous Auklet
Ancient Murrelet
Western Bluebird
Bobolink

MAMMALS - terrestrial

Black Bear
Martin
Cougar
Roosevelt Elk
Columbia Blacktail Deer

MAMMALS - marine

Sea Lions
Seals
Whales
Otter

Southside
Community
Consultants

Name KG

Date 6/15

DATA SURVEY FORM

I. Variable Name Eagle Nesting

II. Source Grubb, "1975 Bald Eagle Activity and Nest Site Data for Western Washington," 1975. Page

III. Contact Person/ Location of Data National Park Service headquarters
Resource Management Division Office, Port Angeles

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1:62:500
3. Contour interval: 20'
4. Level of detail: specific points (minimum geographic area)
5. Agency that generated data: Univ. of Washington
6. Date data produced: 1975
7. Classifications of data:
   a. Number
   b. Listing Eagle Nesting Sites
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

Suitability: (x) suitable ( ) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale (x) accuracy ( ) availability ( ) cost ( ) other

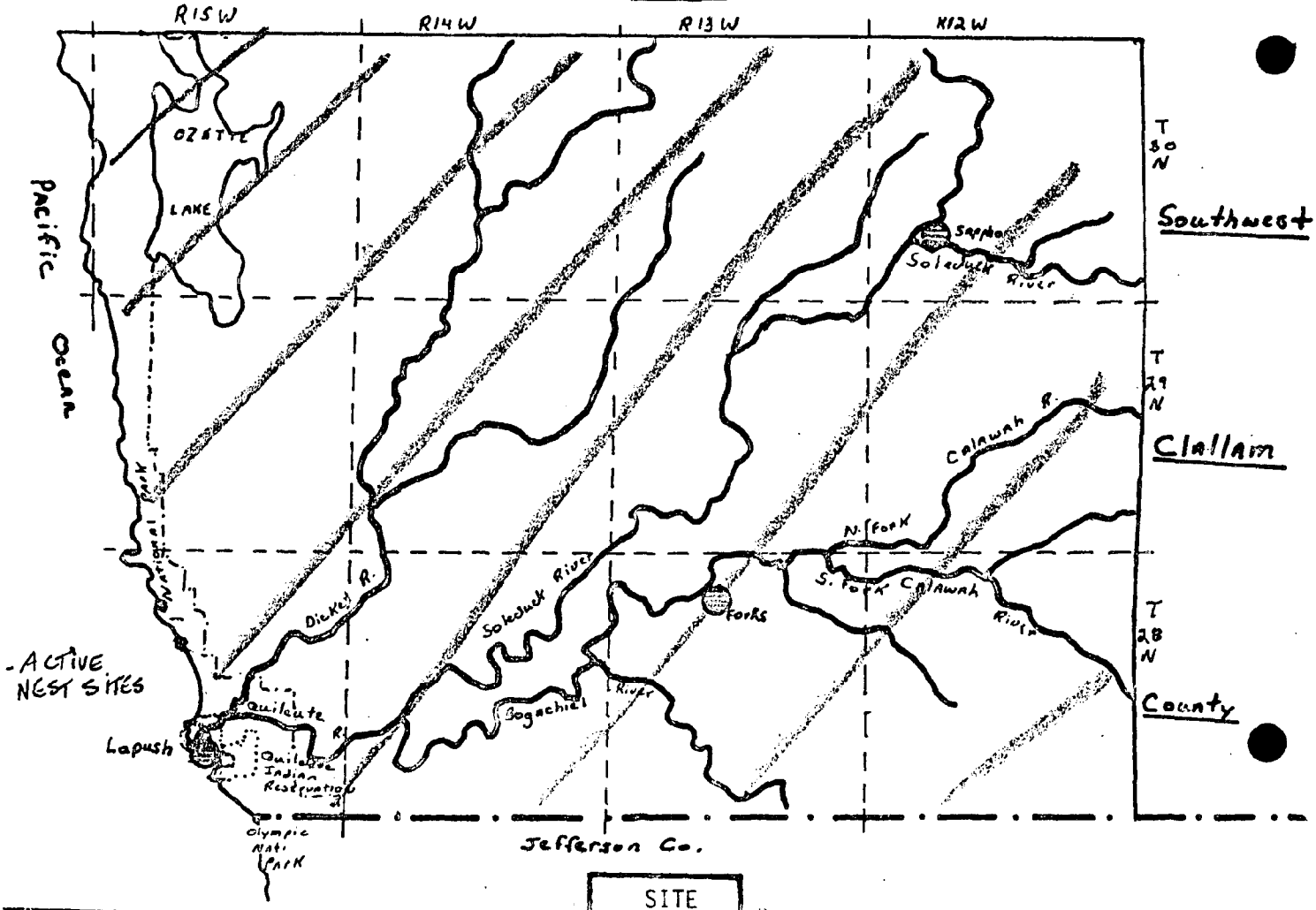
Comments: Not sure whether cover reservation.

Done by air survey.

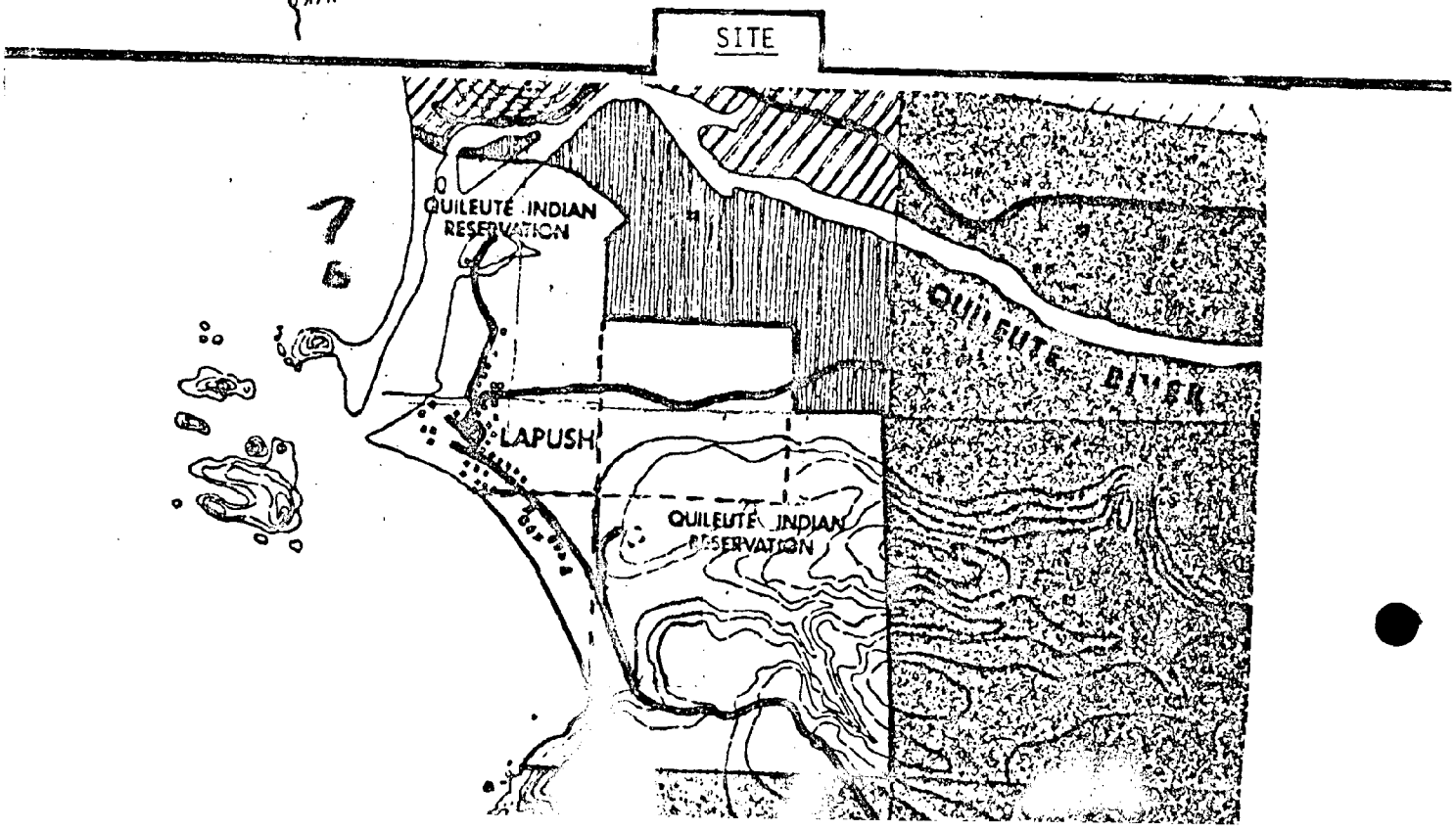
If verified, suitable for on-site analysis.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/9

DATA SURVEY FORM

I. Variable Name Vegetation Zones

II. Source National Park Service Page 22-25
Env. Impact Statement on
Olympic National Park Plan, 1976

III. Contact Person/
Location of Data
provided to tribe

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1" = 5 miles

3. Contour interval: NA

4. Level of detail: whole coastal strip is one designation
(minimum geographic area)

5. Agency that generated data: NPS

6. Date data produced: 1976

7. Classifications of data:
   a. Number 1
   b. Listing mixed lowland coniferous forest

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other

Comments: Must be verified by site investigation.
Reservation deleted from map - must assume on-site characteristics from adjacent area. OK for regional analysis, but too general for site.

Southside
Community
Consultants

Name KG

Date 6/9

DATA SURVEY FORM

I. Variable Name Vegetation Zones

II. Source National Park Service Page 22-25
Env. Impact Statement on
Olympic National Park Plan, 1976

III. Contact Person/
Location of Data
provided to tribe

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1" = 5 miles

3. Contour interval: NA

4. Level of detail: whole coastal strip is one designation
(minimum geographic area)

5. Agency that generated data: NPS

6. Date data produced: 1976

7. Classifications of data:
   a. Number 1
   b. Listing mixed lowland coniferous forest

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other

Comments: Must be verified by site investigation.
Reservation deleted from map - must assume on-site characteristics from adjacent area. OK for regional analysis, but too general for site.

Southside
Community
Consultants

Name KG 67

Date 5/31

DATA SURVEY FORM

I. Variable Name Botanical Features

II. Source Army Corps of Engineers Page 26

Washington Environmental Atlas, 1975

III. Contact Person/
Location of Data City Library, Port Angeles, Clallam County Planning

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 1:750,000

3. Contour interval: NA

4. Level of detail: very general, not site specific.
(minimum geographic area)

5. Agency that generated data: Corps of Engineers.

6. Date data produced: 1975

7. Classifications of data:
   a. Number 14
   b. Listing Different vegetation communities that are significant are mapped.
   Area around LaPush noted as habitat of important native plants and climax communities.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

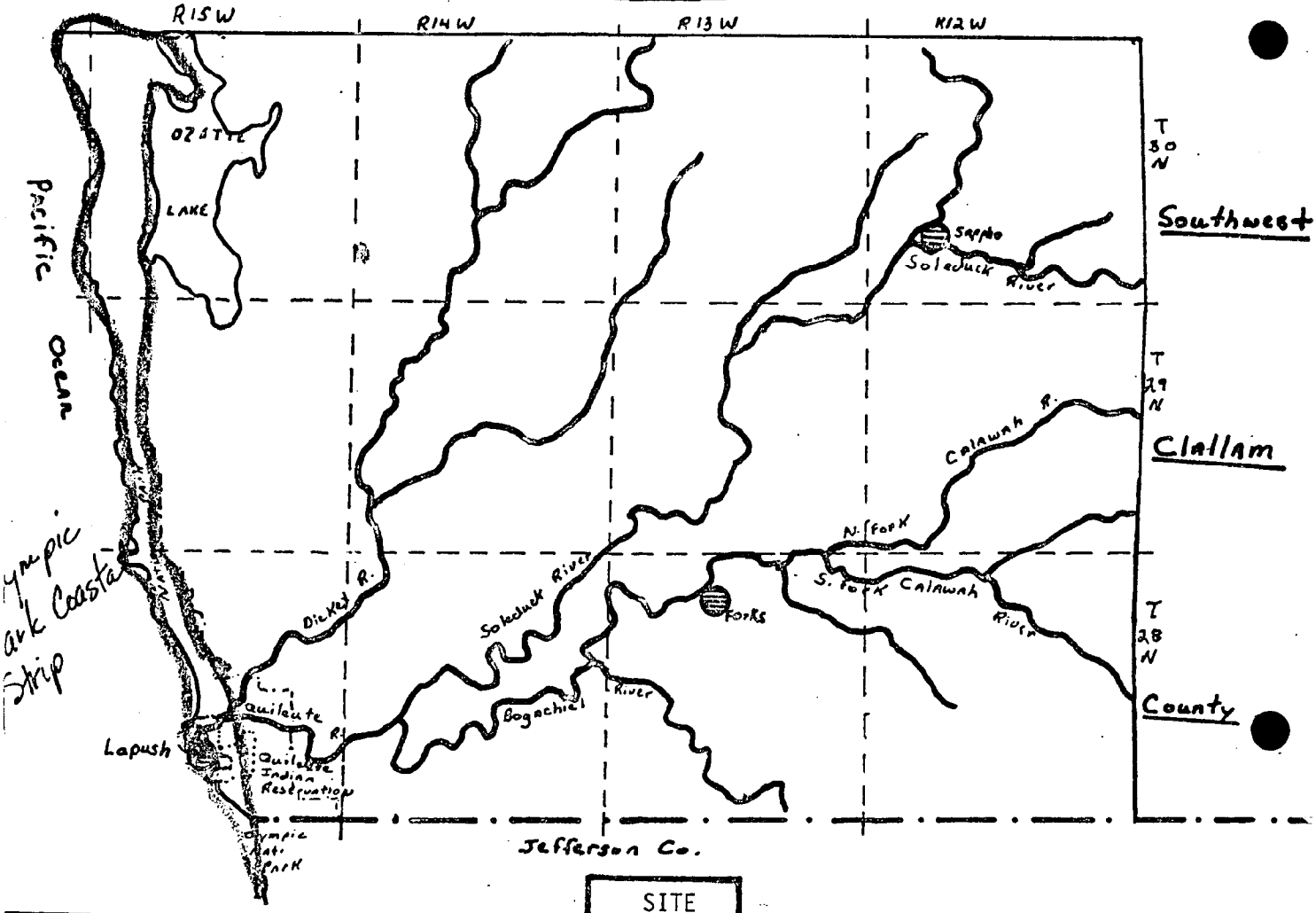
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other specific species and sites not mentioned.

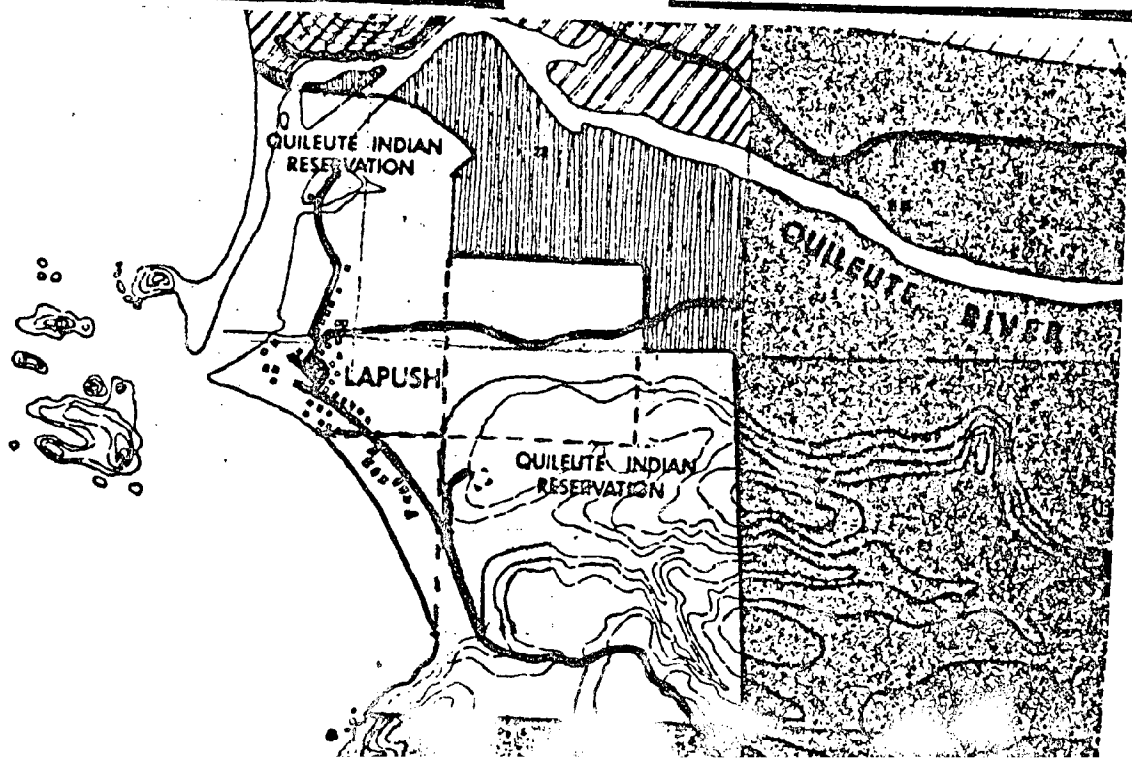
Comments: Useful as background information for regional description.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside Community Consultants

Name KG

Date 6/11

DATA SURVEY FORM

I. Variable Name: Ground Cover (and Vegetation)

II. Source: Reed, Bureau of Indian Affairs Forestry Study, 1976 — Page: whole report & photograph

III. Contact Person/ Location of Data: Bendix Corp., Aerospace Systems Div., Earth Resources Applications, 3621 S. State Rd., Ann Arbor, Michigan 48107.

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped (x) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1:1,000,000
3. Contour interval: NA
4. Level of detail: (minimum geographic area) pixel (about a 2 acre area)
5. Agency that generated data: Bendix Corp.
6. Date data produced: 1973
7. Classifications of data:
   a. Number 16
   b. Listing Various forest community types and urban/transitional cover types
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

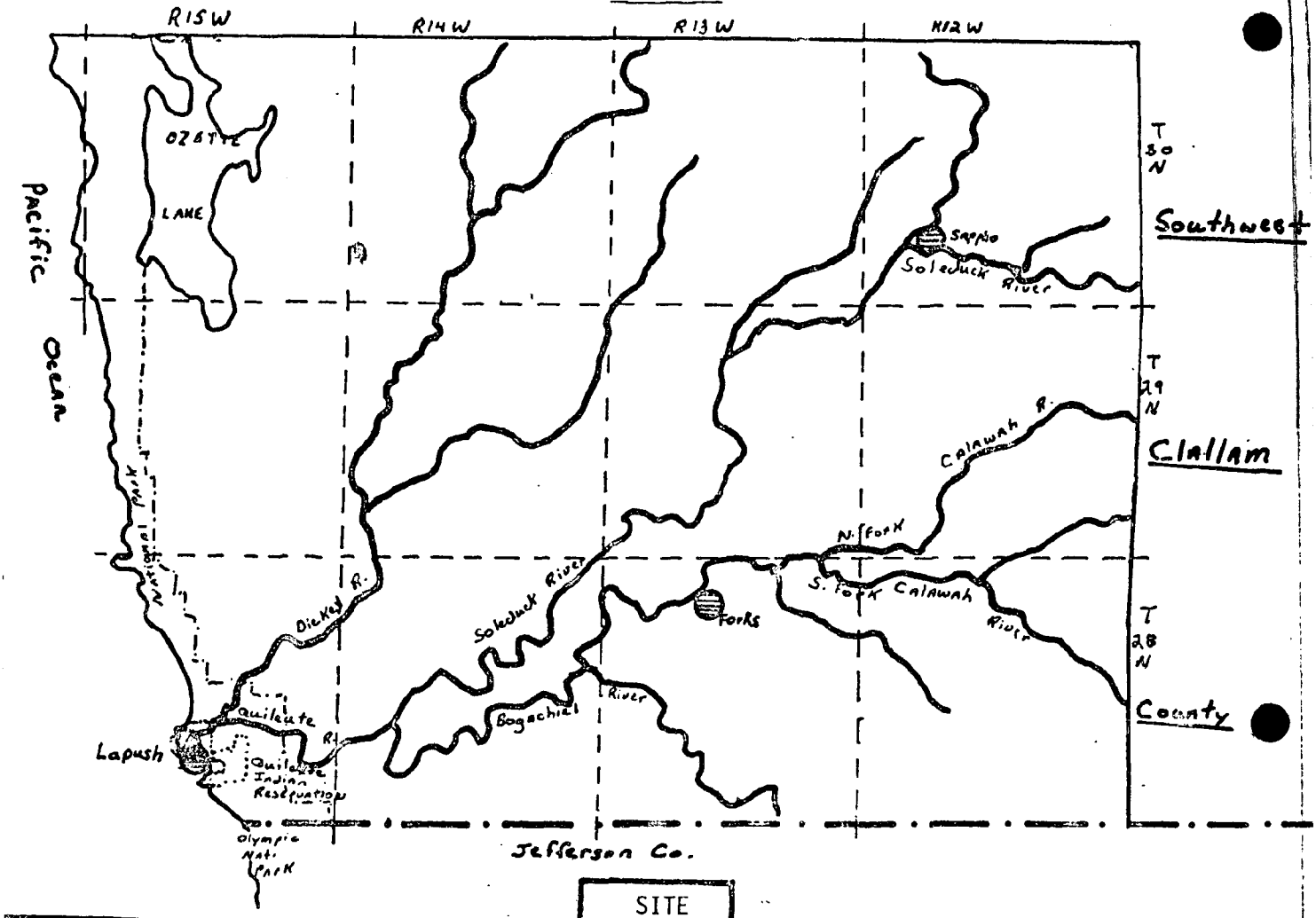
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale ( ) accuracy ( ) availability ( ) cost ( ) other

Comments: Maps prepared for Quinault Reservation at scale of 1:50,000.
Maps and overlays can be made at scale of 1:24,000.
Perhaps this can be used to obtain cover analysis for Quileute.
Could also provide information on land uses within Quileute River drainage basin area.
By association to forest community type certain wildlife habitats could be located.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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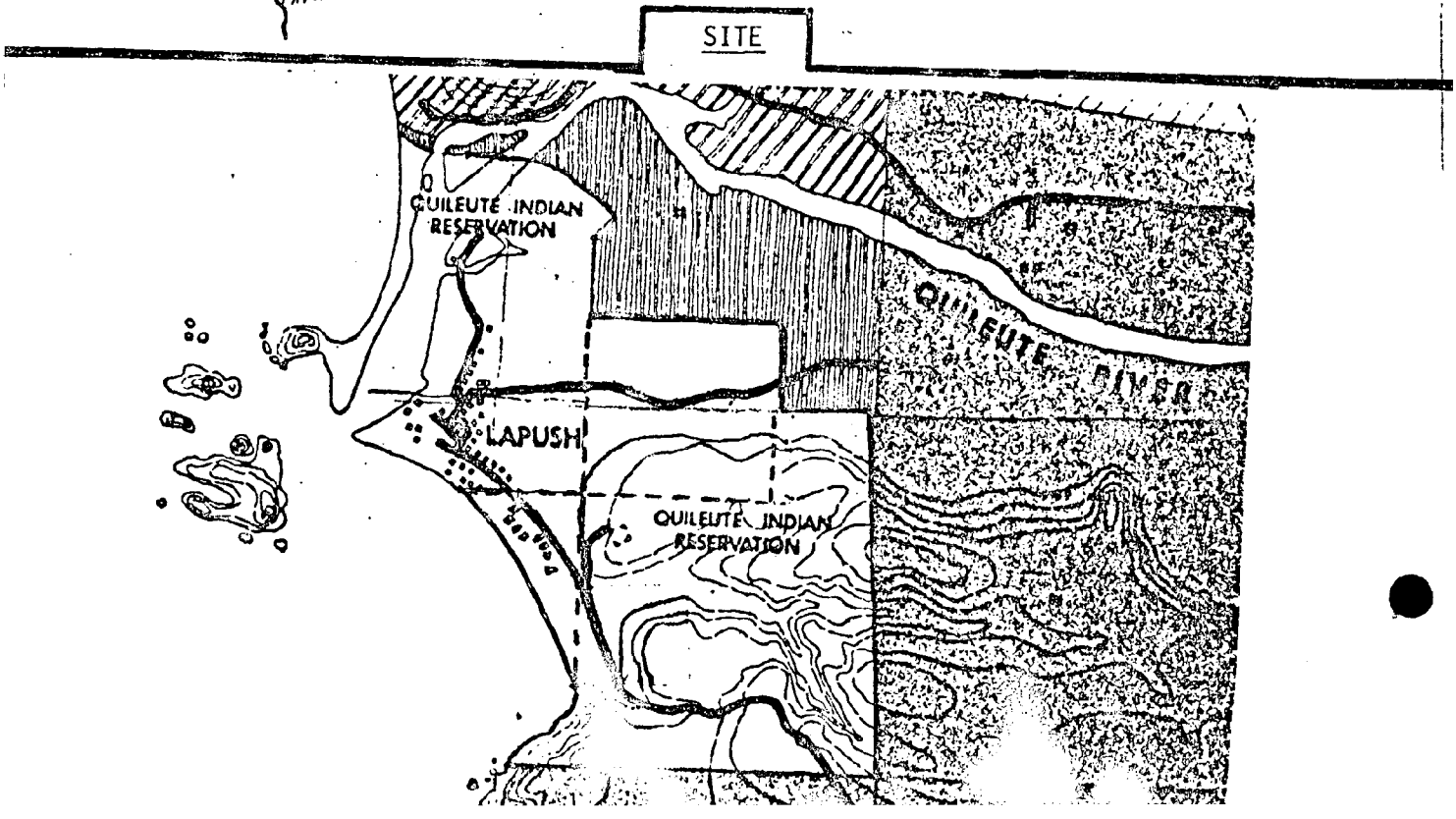

Southside
Community
Consultants

Name BB 69

Date 6/13/78

DATA SURVEY FORM

I. Variable Name Forest Community Types/Soil Chemistry Assoc. With Each

II. Source Kratz, Vegetational Analysis of the Coastal Forest Zone in Olympic National Park, 1975. Page

III. Contact Person/ Location of Data Western Washington Univ. Library

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CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text (x) tabular ( ) digital ( ) other
2. Scale of data:
3. Contour interval:
4. Level of detail: (specific locations identified within 1/4 mile area.)
(minimum geographic area)
5. Agency that generated data: Biology Dept., WWU
6. Date data produced: June 1974
7. Classifications of data:
   a. Number 8
   b. Listing Tree species and 8 different associated species depending upon weather exposure, slope, soil conditions, etc.
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

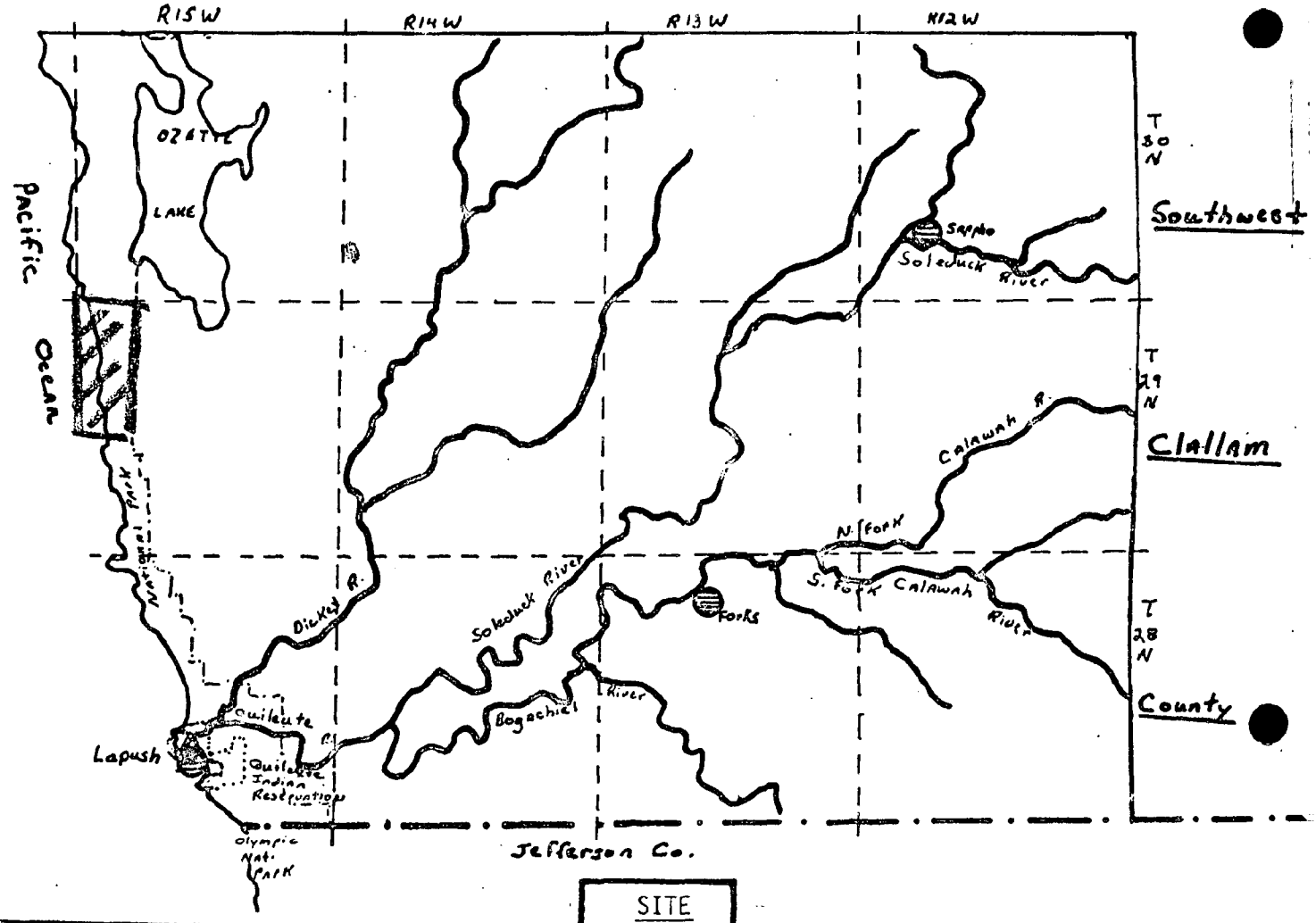
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other ecological zones equatible to those on and near reservation.

Comments: Information not interpreted at all; technical relevance for planning would require further interpretation.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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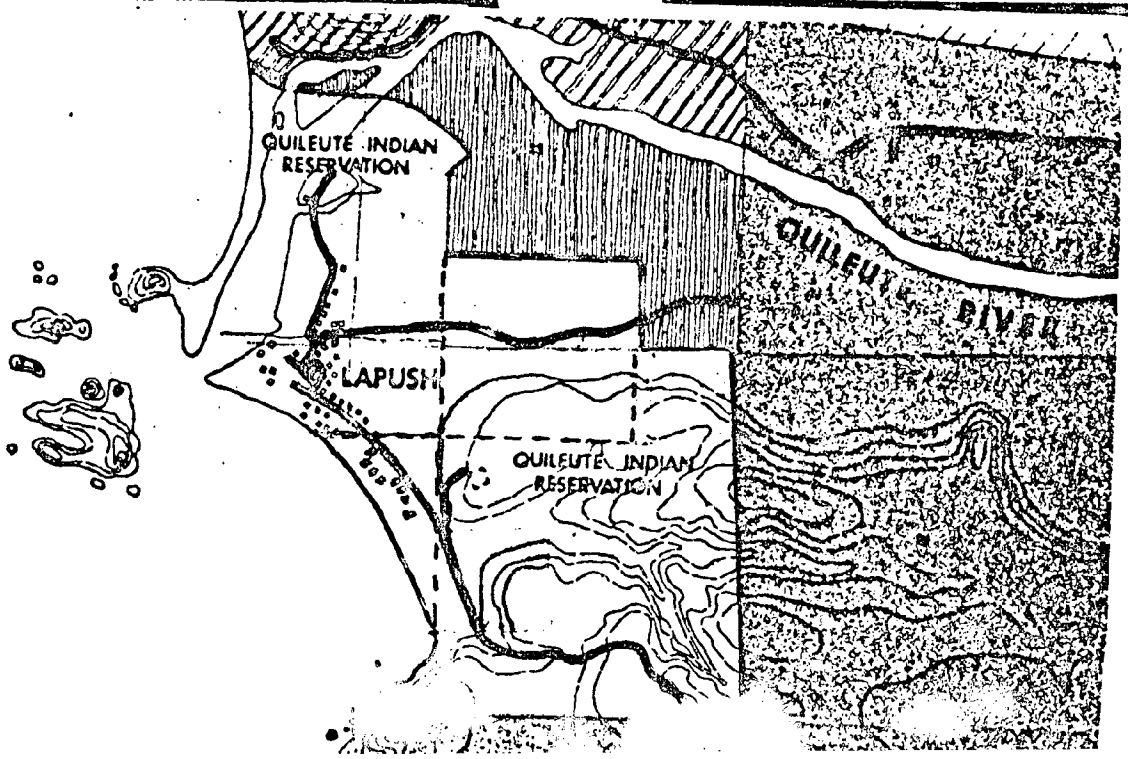

Southside
Community
Consultants

Name B. B.

Date 6-15-78

DATA SURVEY FORM

I. Variable Name Natural Habitats (to identify SMA environments so that management policy will be consistent by habitat.

II. Source Manual for Management of The Coastal Aquatic Area. Page

by Shapiro Associates for Dept. of Ecology, State of Washington, June, 1977.

III. Contact Person/ Location of Data Clallam County Planning

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CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other

2. Scale of data: NA

3. Contour interval: NA

4. Level of detail: (minimum geographic area) Non-specific; identifies habitat characteristics for classifying land types for habitat management under CFM

5. Agency that generated data: Shapiro Associates, Seattle

6. Date data produced:

7. Classifications of data:
   a. Number 9 associated with following characteristics - temp., salinity, dis. o_2, wave action, flushing characteristics, subtidal/intertidal/slope charact./ water depth
   b. Listing substrata types; solid rocks, mixed coarse, mixed fine, clean sand, muddy sand, mud, eelgrass, salt marsh, algae

8. Is data available? ( ) Yes ( ) No ?

9. Cost of data:

EVALUATION

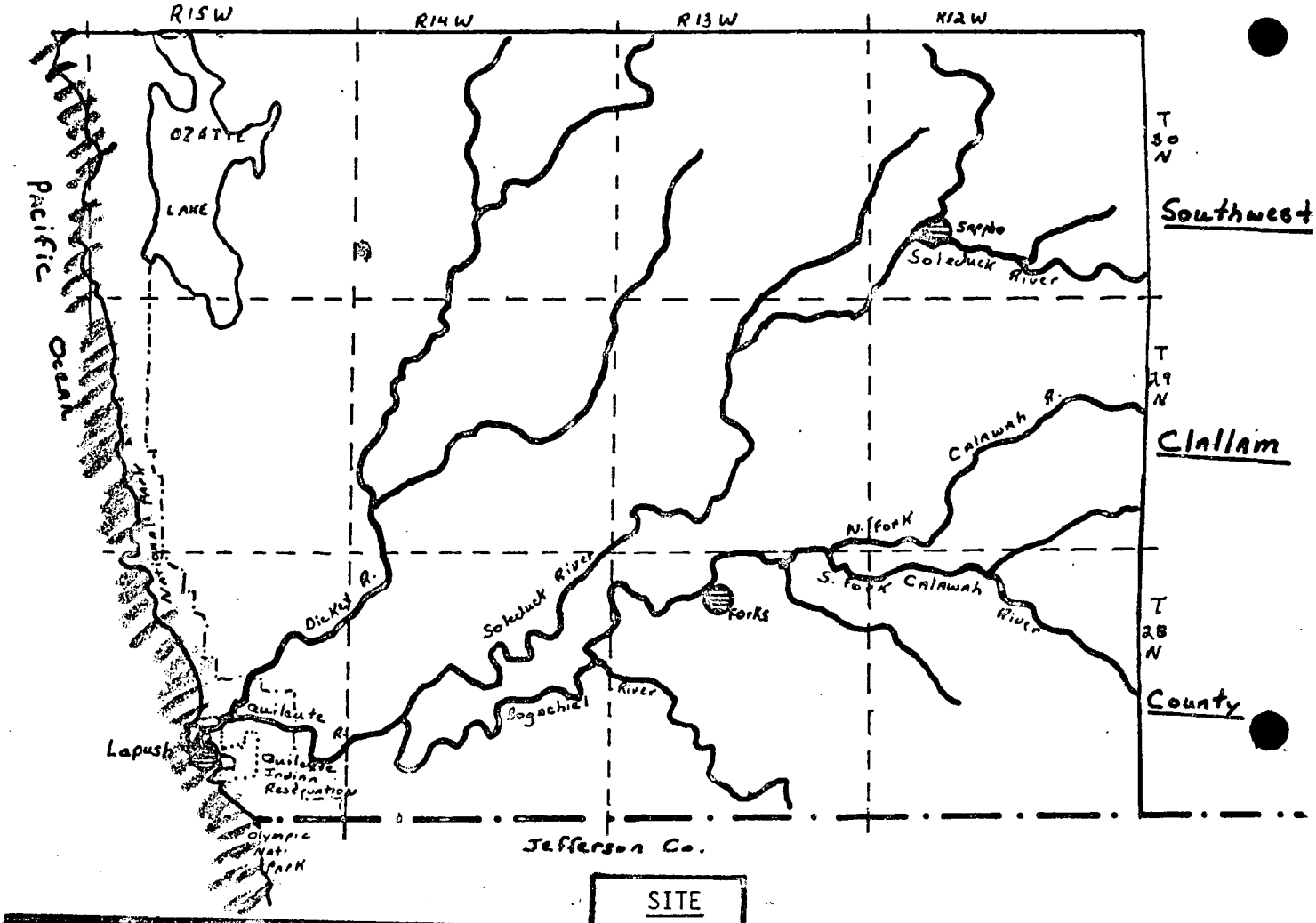
Suitability: (x) suitable ( ) suitable with modification ( ) not suitable No

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other discussion according to general categories only.

Comments: general classification of substrata habitats described - not suitable for mapping but could be quite useful as background data for aquatic habitat management programs in future. Contact source for more information.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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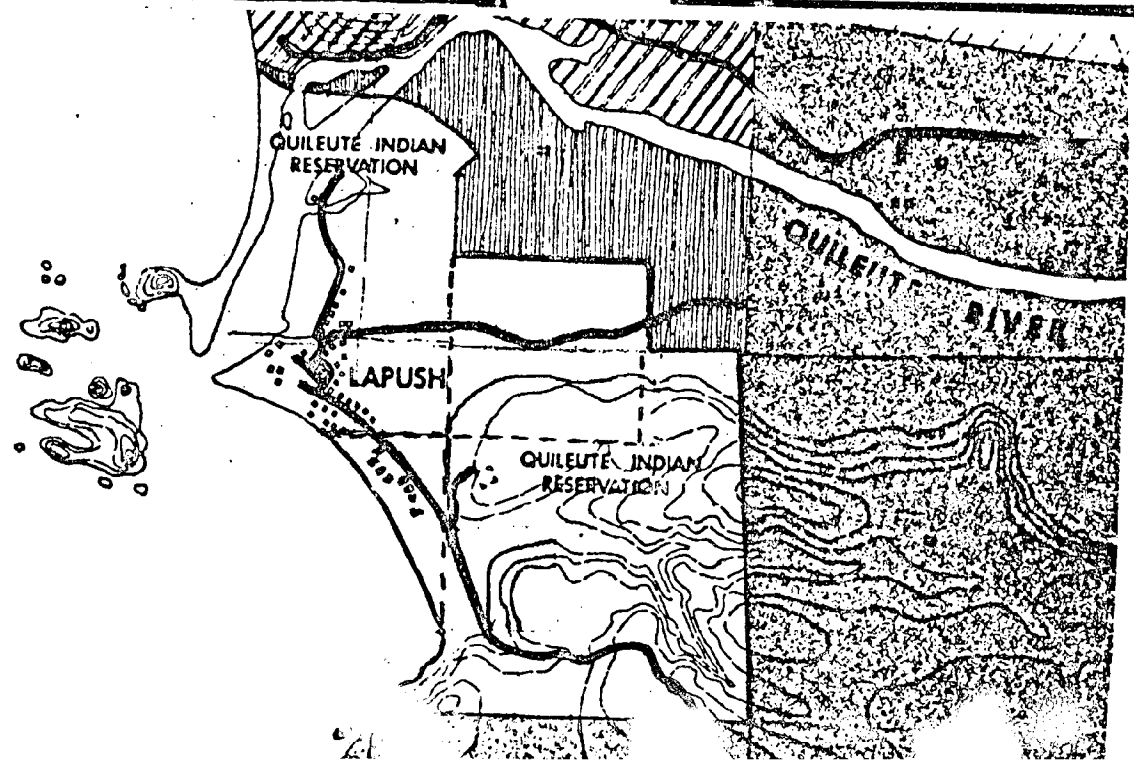


Southside Community Consultants

Name KG

Date 6/1/78

DATA SURVEY FORM

I. Variable Name Environmental Use Features

II. Source Corps of Engineers Page 70

Washington Environmental Atlas, 1975

III. Contact Person/ Location of Data Clallam County Planning Office & Public Library, City of Port Angeles

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1:750,000
3. Contour interval: none
4. Level of detail: (minimum geographic area) accurate at scale
5. Agency that generated data: Corps of Engineers
6. Date data produced: 1975
7. Classifications of data:
   a. Number 20
   b. Listing Wilderness area (Washington Island) and National Park adjacent to reservation; a Quileute Needles National Wildlife Refuge.
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

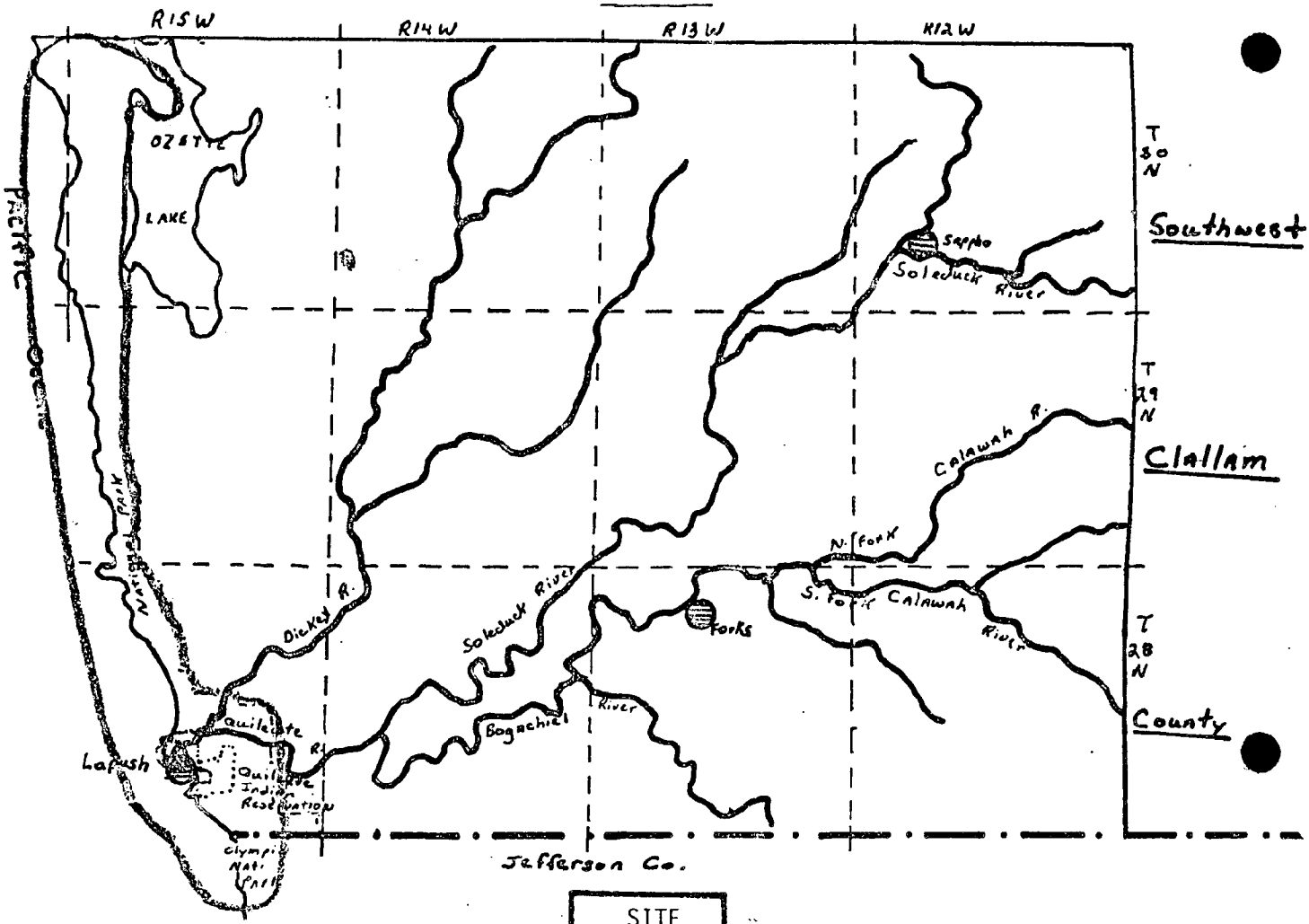
Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other use area designation only.

Comments: Identifies use areas outside reservation boundaries.

Background regional data.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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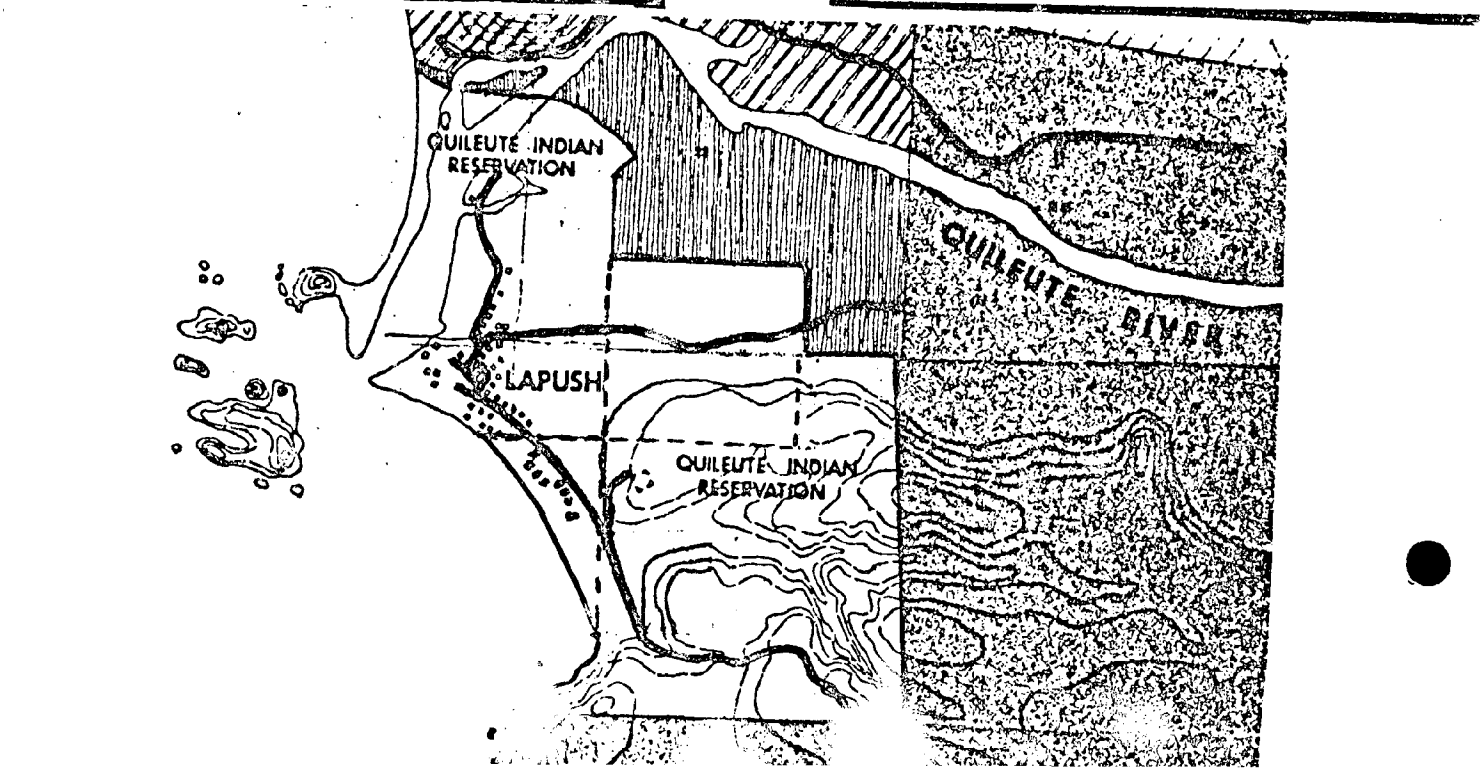


Southside
Community
Consultants

Name B. B.

Date 6-15-78

DATA SURVEY FORM

I. Variable Name Document title - Summary and Analysis of Environmental Information of the Oregon and Washington Coastal Zone and Offshore Areas. Environmental Information Summary (Overall Survey)

II. Source Compendium/Resource Index at Clallam County Planning Office Page E-6-761

III. Contact Person/ Location of Data Fox Oceanographic Institute of Washington: by Pizzo, J. T., Harshman, G. W., 312 First Av., N., Seattle, WA 98109, or contact Human Resource & Planning Institute - 206 (622-1380).

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital (x) other overlays
2. Scale of data: 1:250,000
3. Contour interval: --
4. Level of detail: (minimum geographic area) includes Washington Coastal Region
5. Agency that generated data: Oceanographic Institute of Washington affiliated with private contractors listed above
6. Date data produced: Oct. 12, 1976 to Aug. 12, 1977.
7. Classifications of data:
   a. Number Economic, social and natural resources: vulnerability analysis of
   b. Listing recreational resources of coastal zone/compilation of all information available.
8. Is data available? ( ) Yes ( ) No
9. Cost of data:

EVALUATION

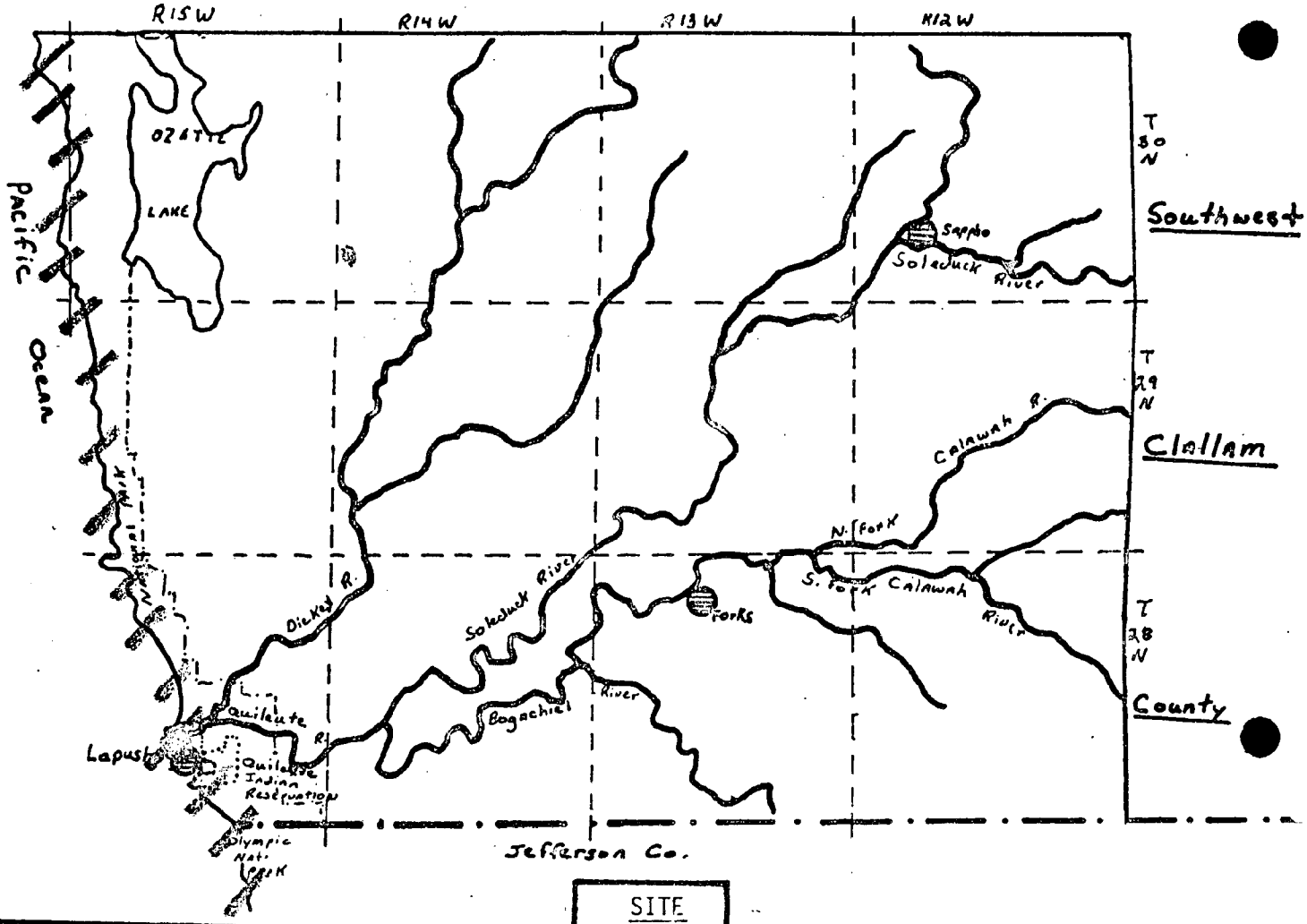
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other

Comments: Contact above for more information; rather large scale for Quileute purposes, but sounds very comprehensive in indexing of information available.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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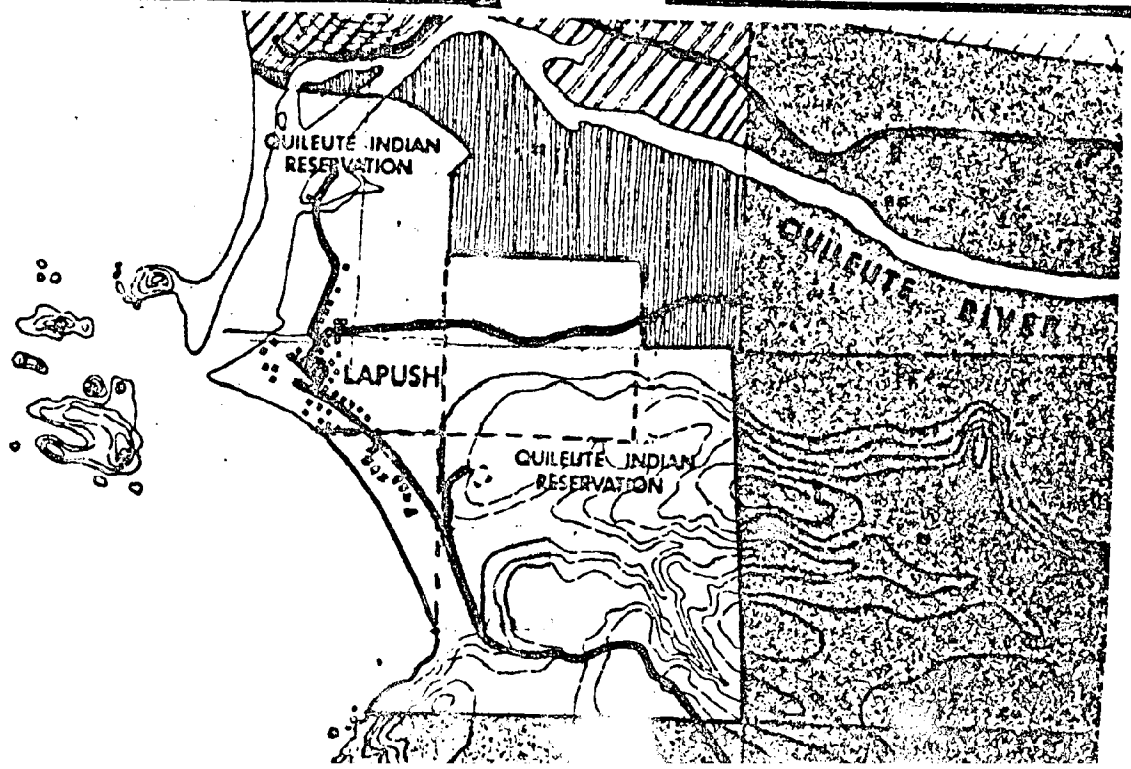

Southside Community Consultants

Name KG

Date 6/1/78

DATA SURVEY FORM

I. Variable Name Important Resource Areas of Clallam Co.

II. Source U.S. Army Corps of Engineers
Washington Environmental Atlas, 1975

Page 78,79

III. Contact Person/ Location of Data Clallam Co. Planning Office & County Library

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CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: NA
3. Contour interval: NA
4. Level of detail: General - countywide and regional (minimum geographic area)
5. Agency that generated data: Corps of Engineers
6. Date data produced: 1975
7. Classifications of data:
   a. Number See comments below.
   b. Listing
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

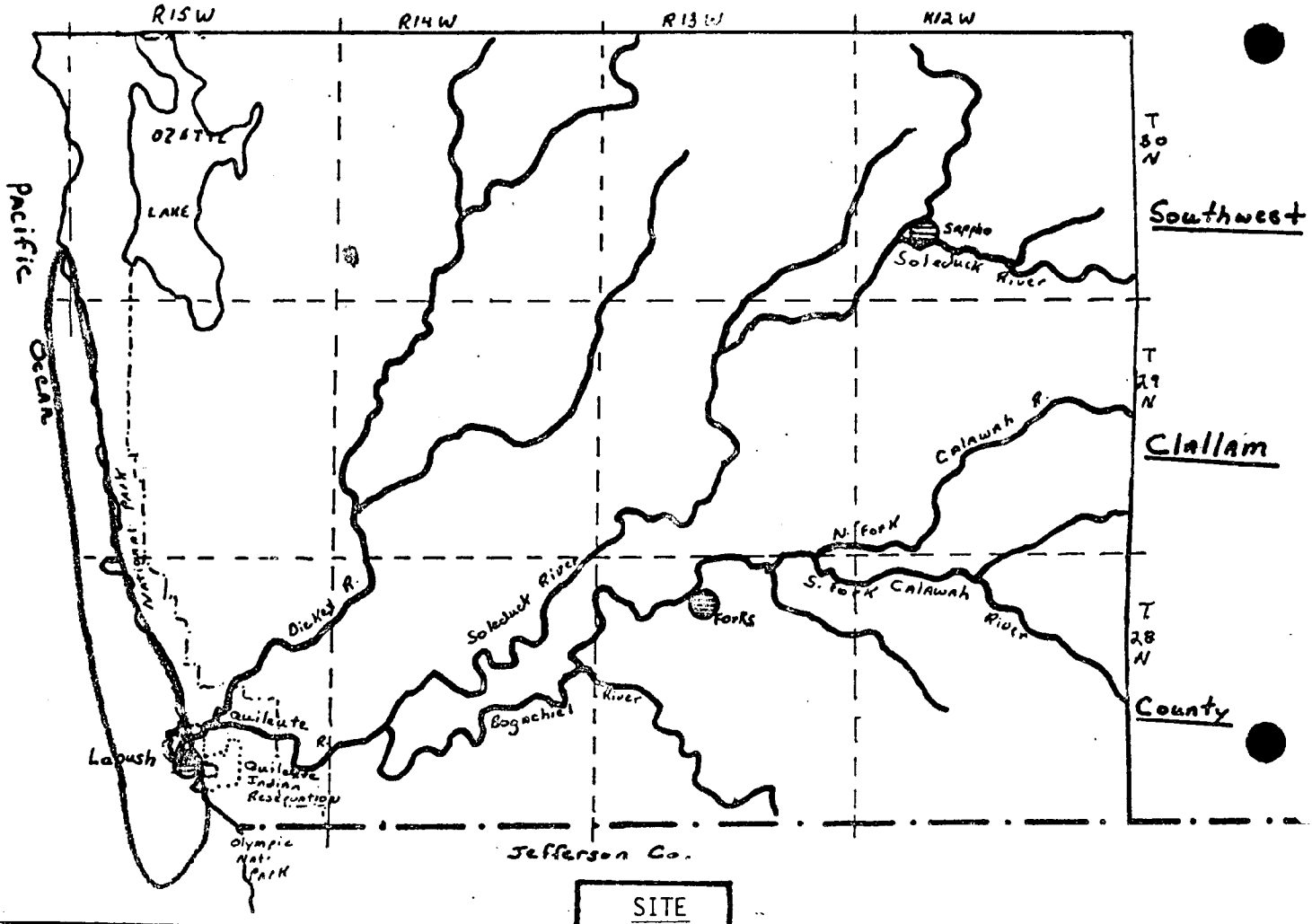
Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other categories are too broad and not spatially defined.

Comments: Identifies Quileute needles and beaches as geologically important. Washington Islands Wilderness Area as prime wildlife habitat, and LaPush as recreational and fisheries area and probable habitat of sea otter.

Possible use as background data.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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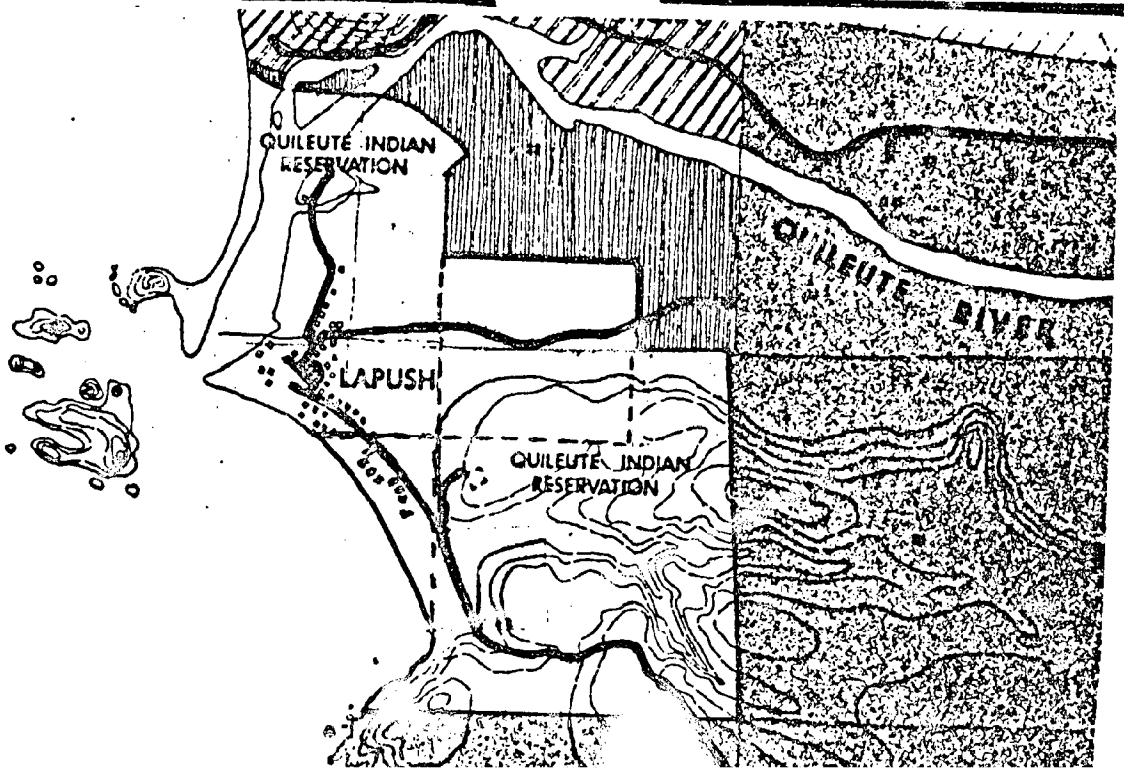


III. CULTURAL ENVIRONMENT

RESERVATION

- TRAFFIC 74
- SEWER SYSTEM 75-79
- LAND USE 80-85
- LAND OWNERSHIP 86
- ARCHEOLOGICAL SITES 87-88
- UNIQUE CULTURAL FEATURES 89-90

REGION

- LAND OWNERSHIP 91-92
- LAND USES 93-95

Southside
Community
Consultants

Name K-G

Date 6/3/78

DATA SURVEY FORM

I. Variable Name Traffic Circulation

II. Source U.S. Army Corps of Engineers
Environmental Evaluation Page 20
Quileute River Spit Restoration, 1975

III. Contact Person/ Location of Data provided by tribe.

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital
( ) other

2. Scale of data: NA

3. Contour interval: NA

4. Level of detail: general
(minimum geographic area)

5. Agency that generated data: presume Corps of Engineers

6. Date data produced: ?

7. Classifications of data:
   a. Number
   b. Listing Description of circulation pattern, boat travel, and moorage.

8. Is data available? ( ) Yes ( ) No

9. Cost of data:

EVALUATION

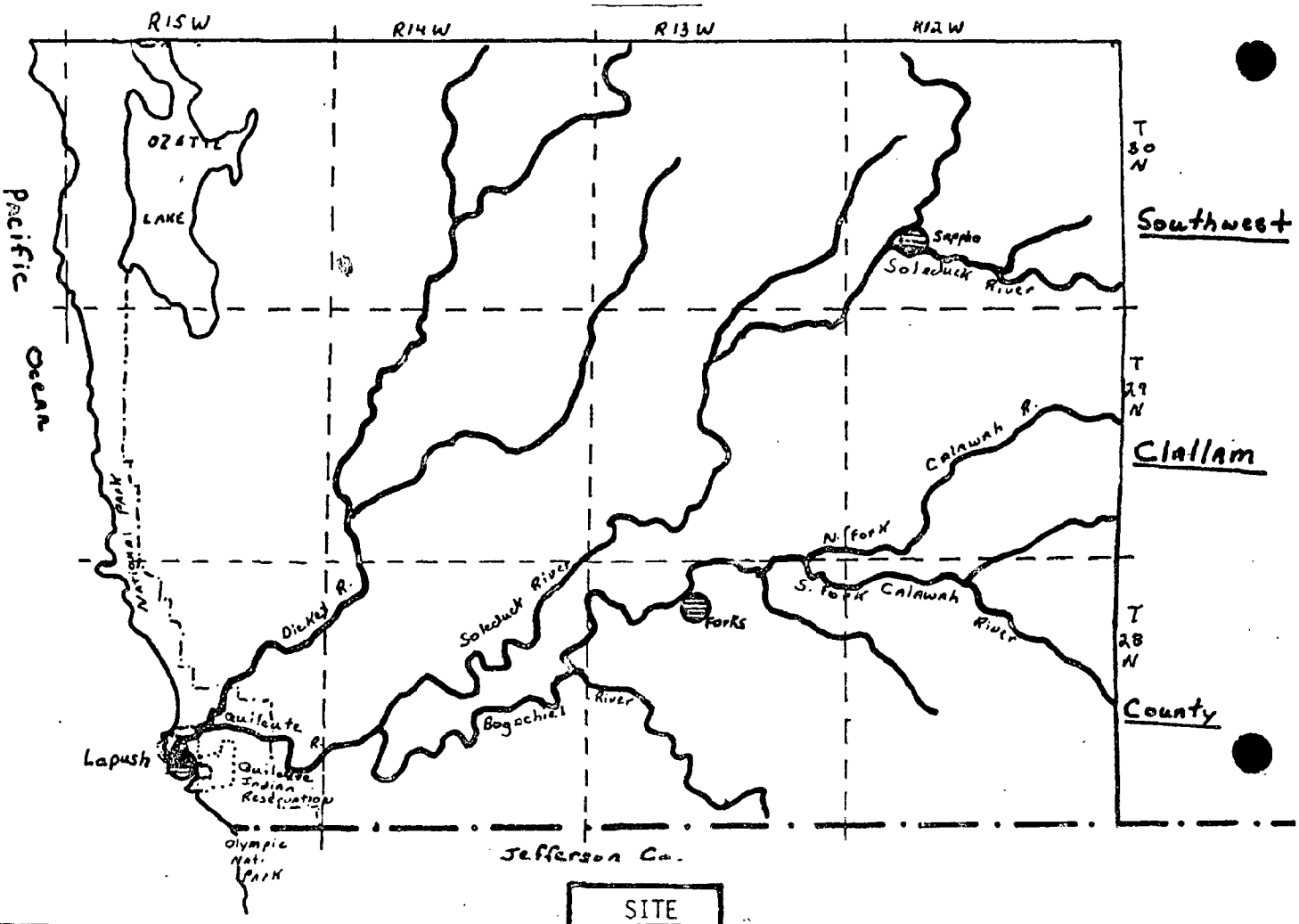
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: (x) outdated ( ) scale (x) accuracy ( ) availability ( ) cost
( ) other not mapped or documented

Comments: Too general to be of any significance;
not even useful background data.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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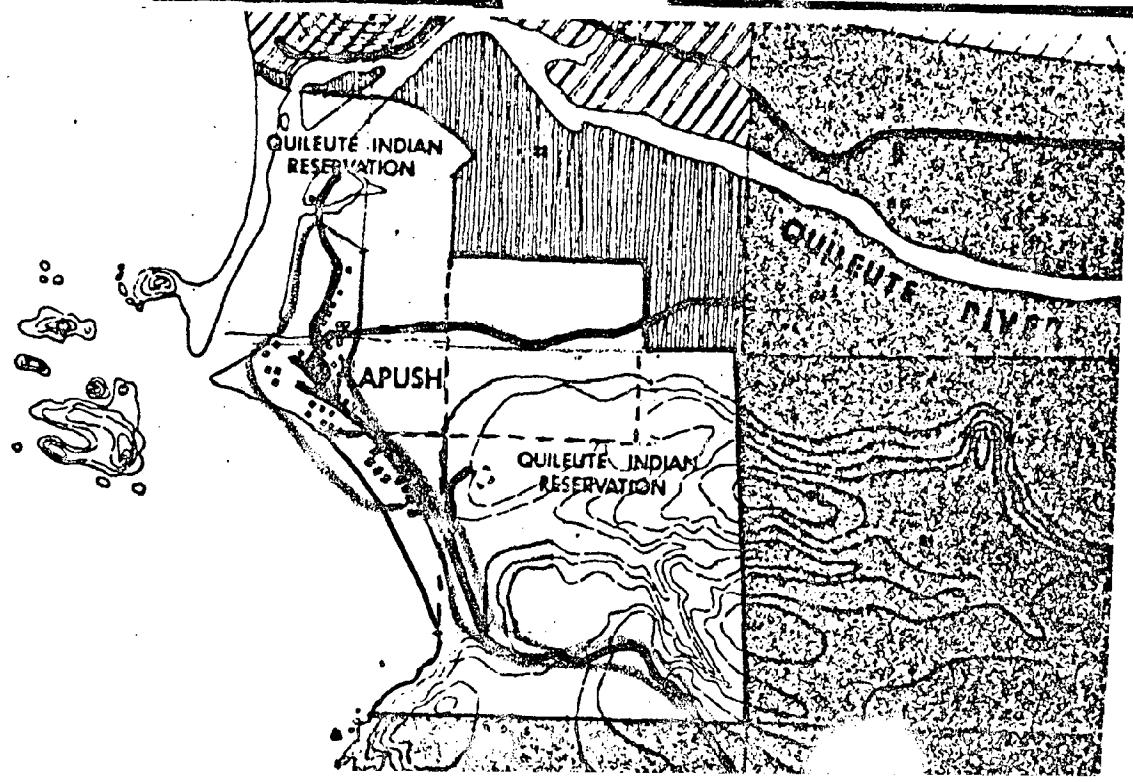


75

Southside
Community
Consultants

Name BB

Date 6/17/78

DATA SURVEY FORM

I. Variable Name Sewer System layout (collectors), La Push

II. Source CH2M, A Sewage Facilities Plan for the Village of La Push, 1975 Page 41

III. Contact Person/ Location of Data available from tribe.

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other

2. Scale of data: 1" = 400 ft.

3. Contour interval: NA

4. Level of detail: (minimum geographic area) map shows community area and uplands

5. Agency that generated data: CH2M

6. Date data produced: 1975

7. Classifications of data:
   a. Number NA
   b. Listing NA

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

Suitability: (x) suitable ( ) suitable with modification ( ) not suitable

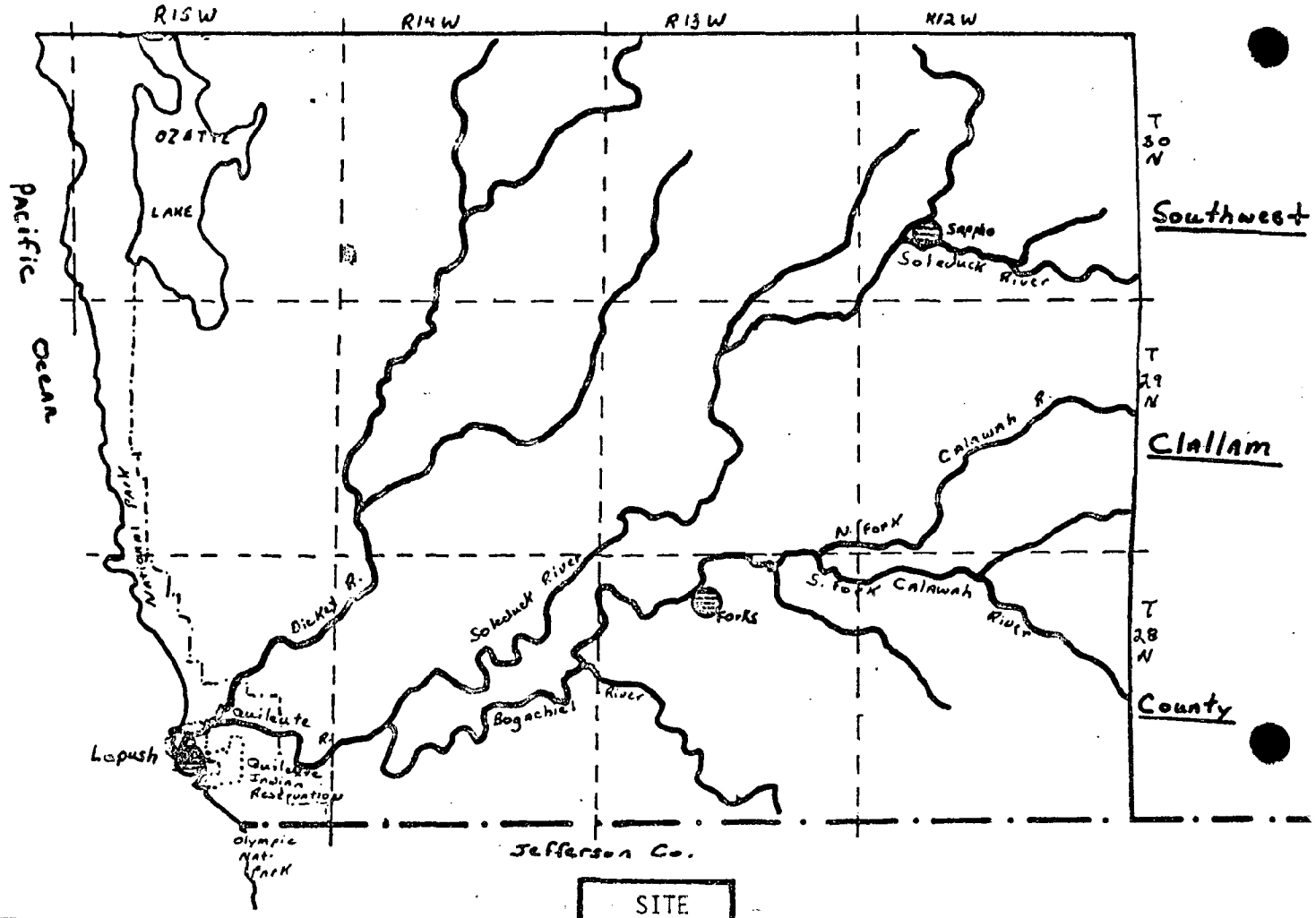
Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other

Comments:

Base map used may be useful for mapping other information as well.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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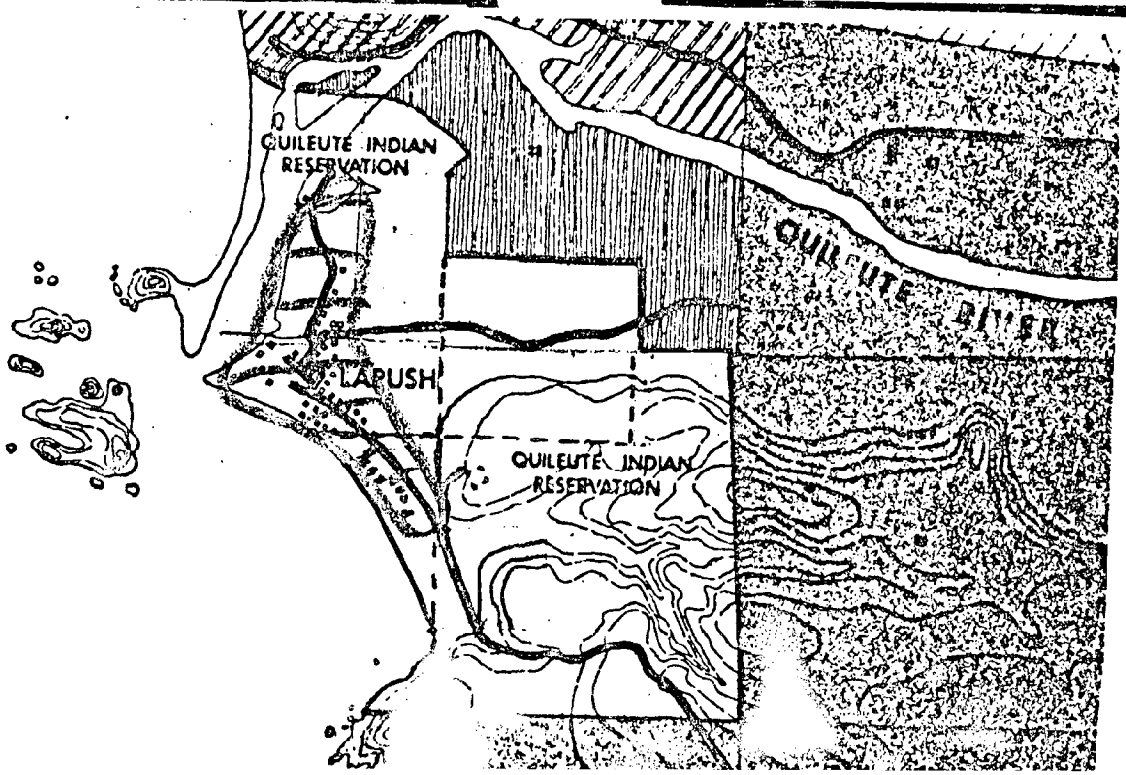

Southside
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Consultants

Name KG 76

Date 6/8/78

DATA SURVEY FORM

I. Variable Name Sewer Line Location

II. Source Pauley, A Plan for the Quileute Reservation, 1972 Page 73

III. Contact Person/ Location of Data Office of BIA, Everett

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 400 ft.
3. Contour interval: 40'
4. Level of detail (minimum geographic area): Specific
5. Agency that generated data: Pauley & Assoc.
6. Date data produced: 1972
7. Classifications of data:
   a. Number
   b. Listing Sewer line location, sizes
8. Is data available? (X) Yes ( ) No
9. Cost of data:

EVALUATION

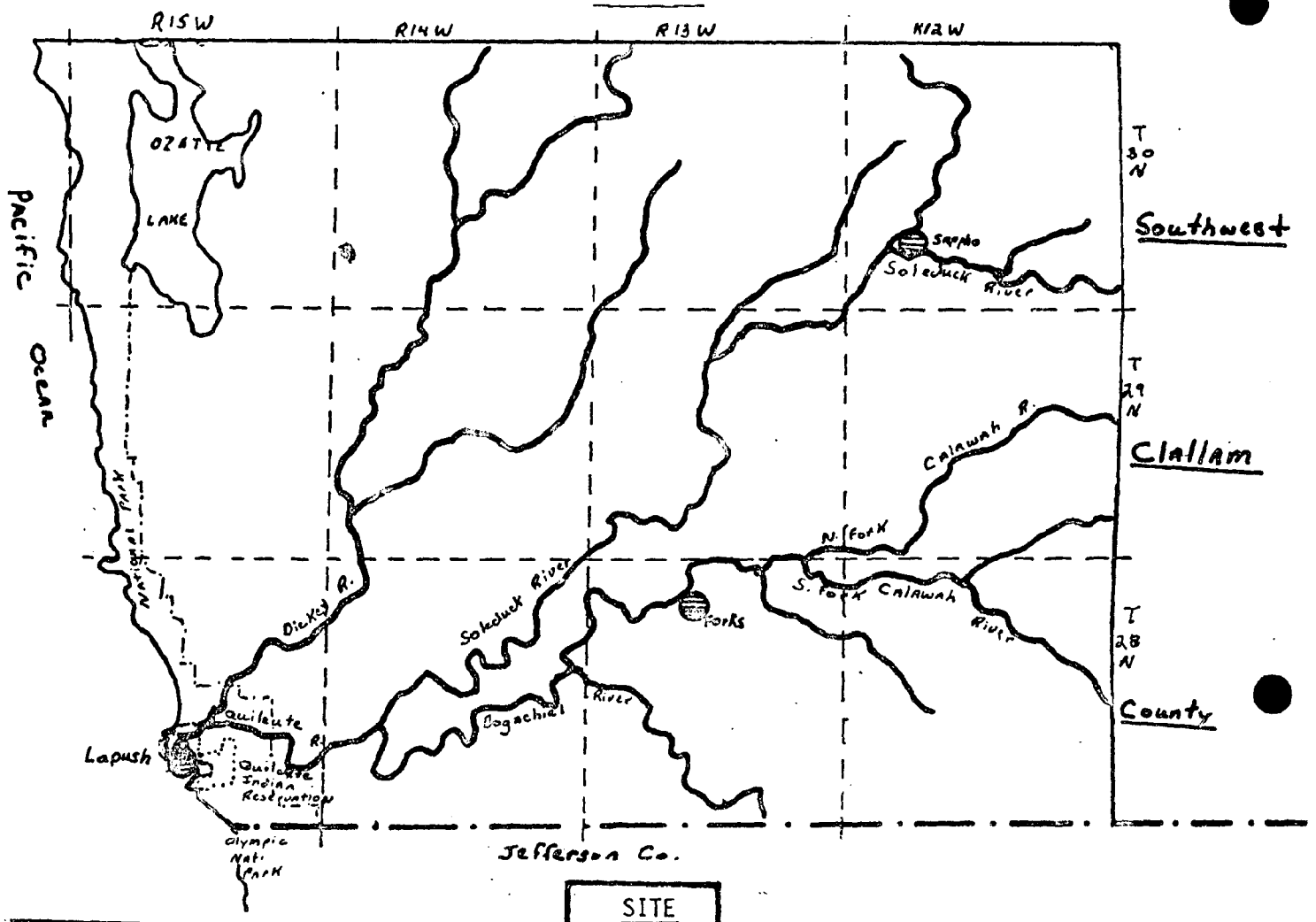
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other

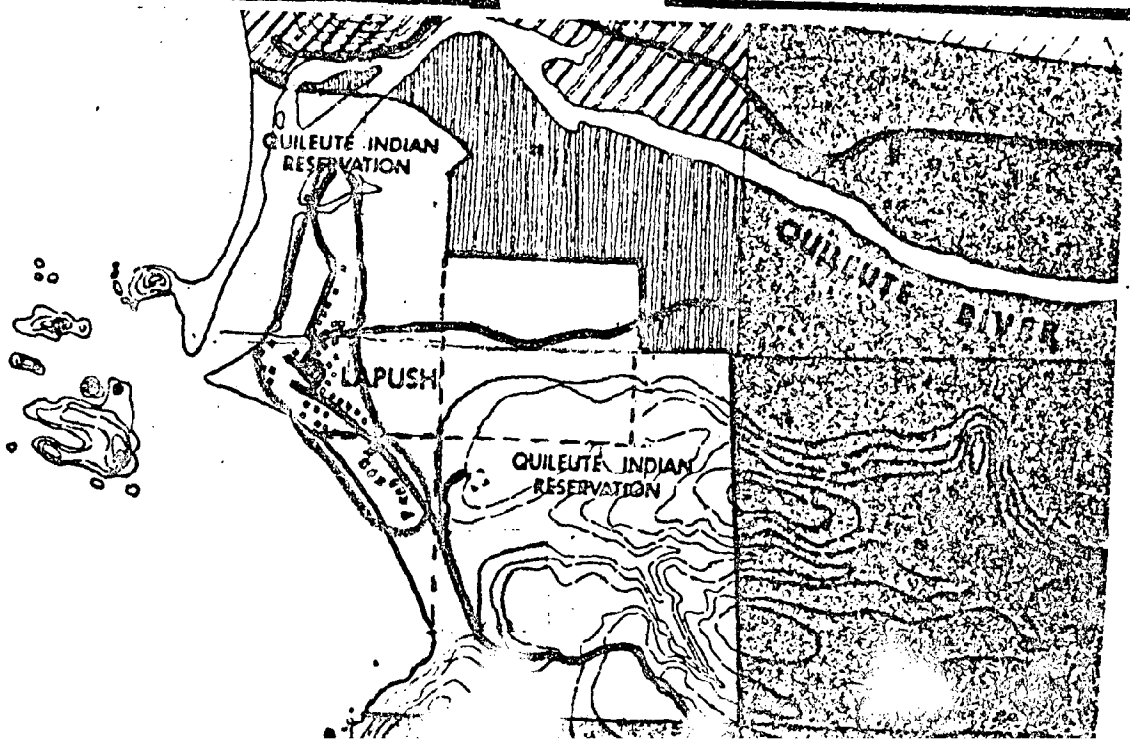
Comments: Transpose to base map at better scale; should be updated.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name BB

Date 6/17/78

DATA SURVEY FORM

I. Variable Name Population & Domestic Sewage Load

II. Source CH2M, A Sewage Facilities Plan for the Village of La Push, 1975 Page 25

III. Contact Person/ Location of Data available from tribe

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo ( ) text (x) tabular ( ) digital ( ) other
2. Scale of data: NA
3. Contour interval: NA
4. Level of detail: (minimum geographic area) NA
5. Agency that generated data: CH2M
6. Date data produced: ?
7. Classifications of data:
   a. Number 6
   b. Listing Gallons per capita per day (flow rate); biochemical oxygen demand (BOD); suspended solids (SS); gallons per boat per day
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

Suitability: (x) suitable ( ) suitable with modification ( ) not suitable

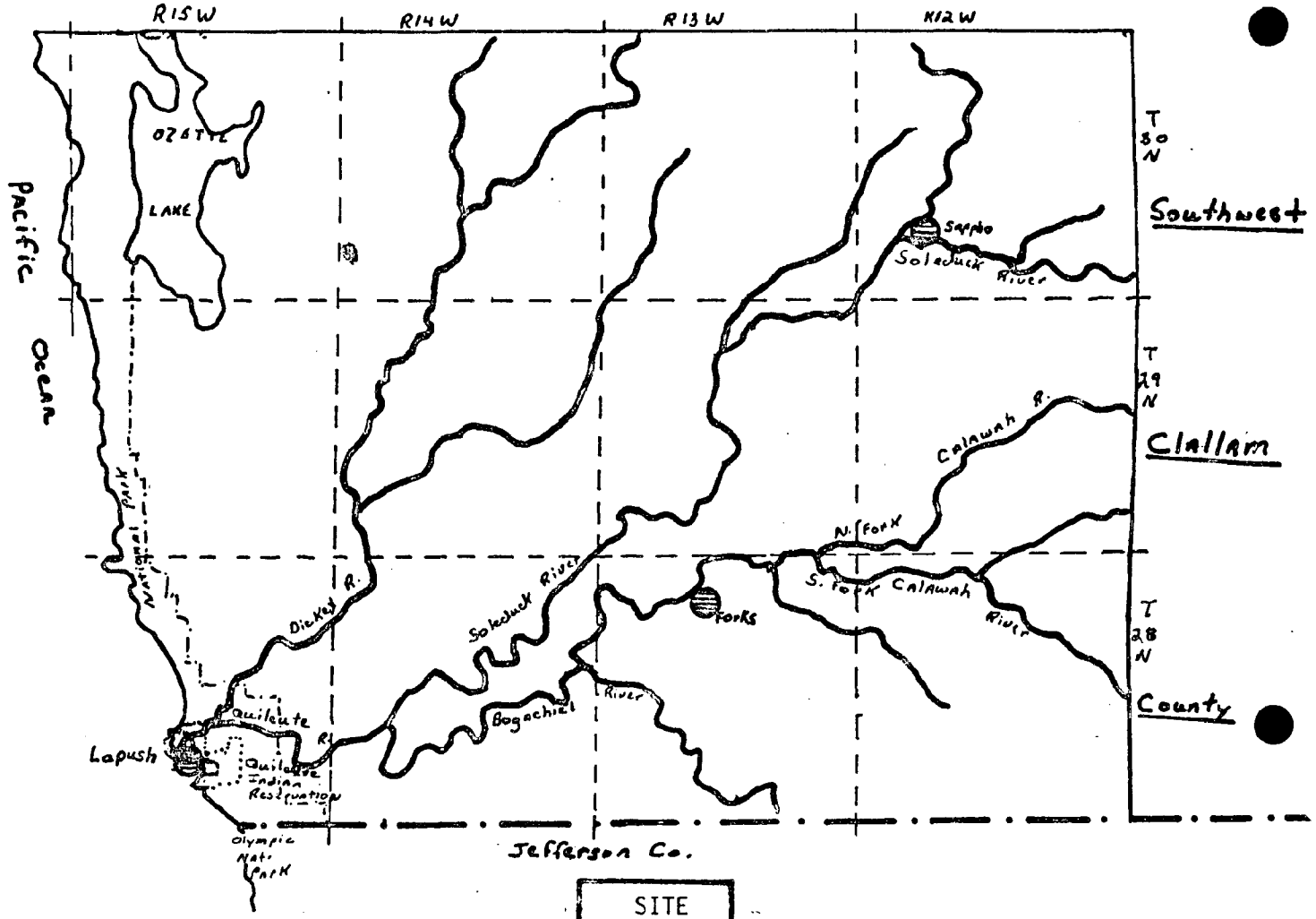
Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other

Comments:

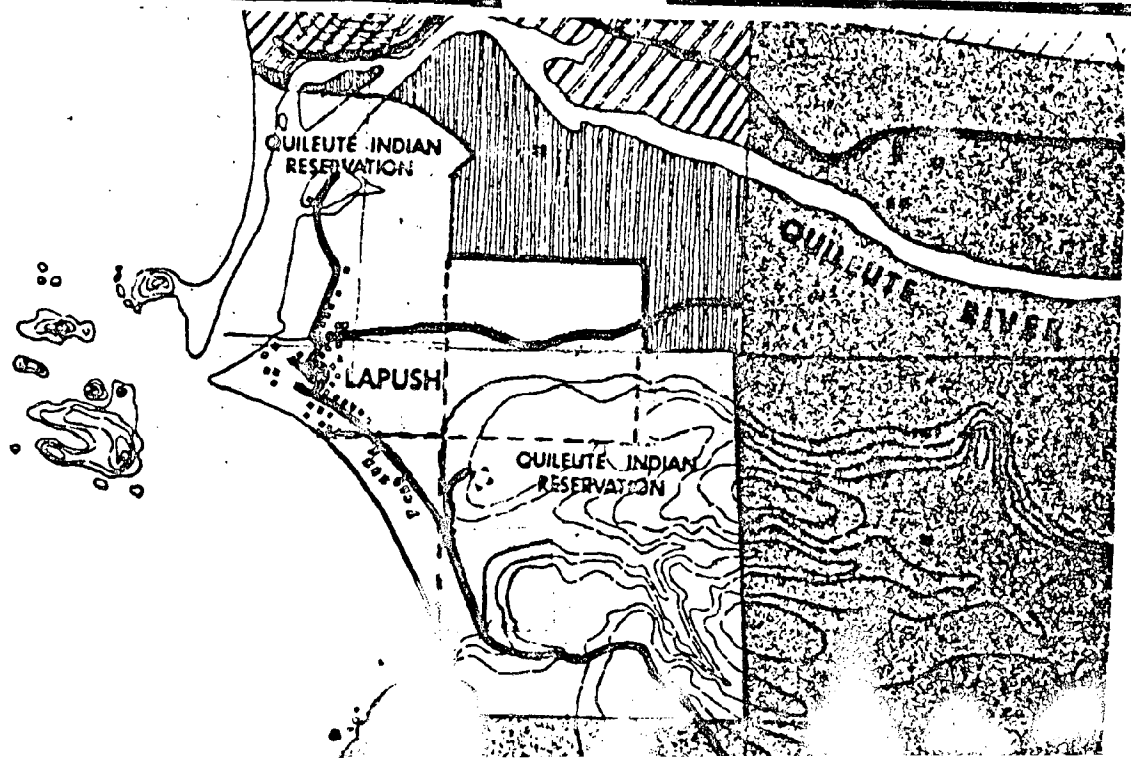
Useful for background data but not mapable.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



78

Southside
Community
Consultants

Name KG

Date 5/31/78

DATA SURVEY FORM

I. Variable Name Sewer Plan for Reservation

II. Source People Space Architecture, Planning Document 2, 1973 Page

III. Contact Person/ Location of Data provided by tribe

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1" = 2 miles
3. Contour interval: 40 ft.
4. Level of detail: very general (minimum geographic area)
5. Agency that generated data: People Space Architecture - source unknown
6. Date data produced: 1973
7. Classifications of data:
   a. Number
   b. Listing Sewer collection line, collection point, distribution field.
8. Is data available? ( ) Yes ( ) No
9. Cost of data:

EVALUATION

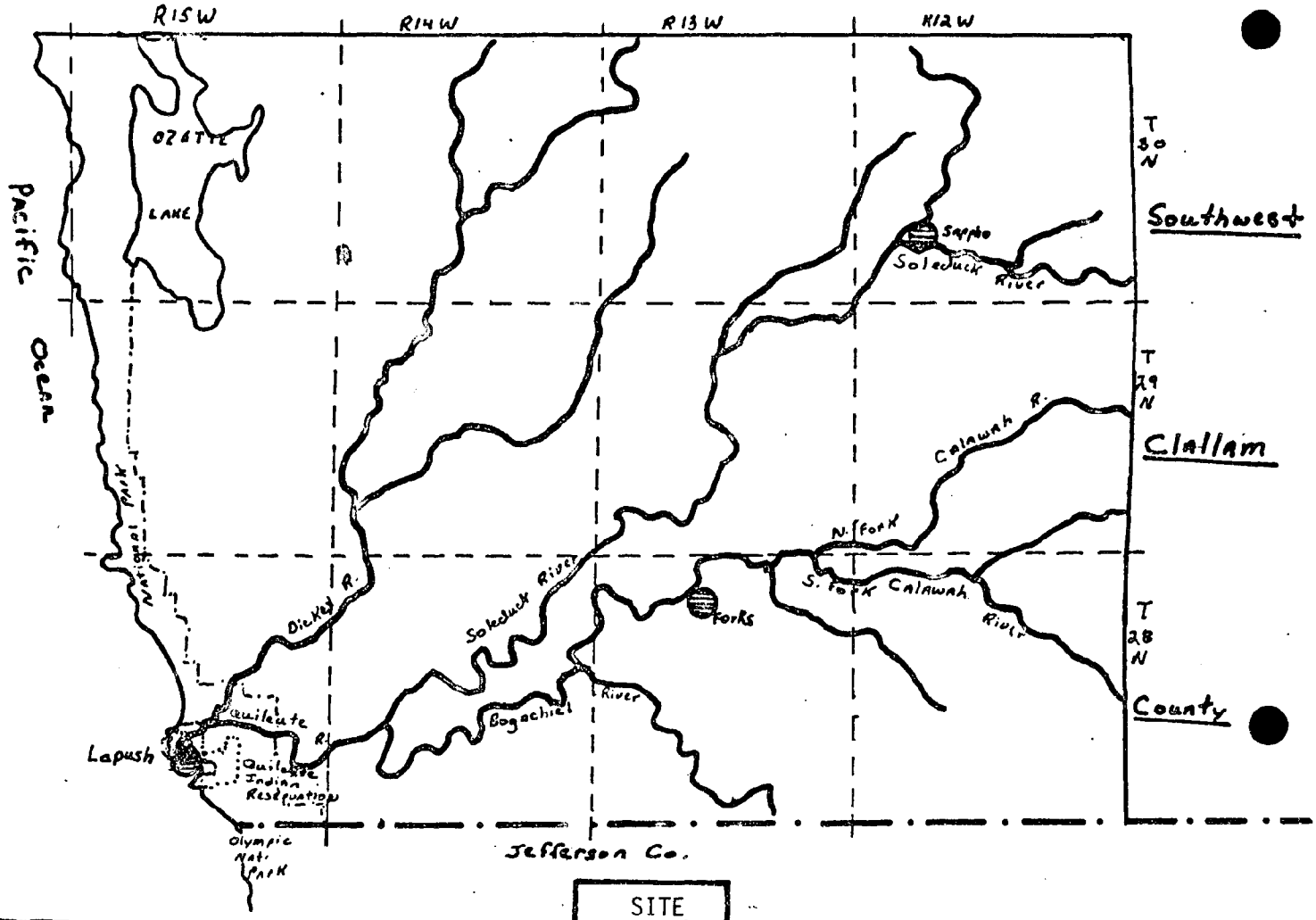
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: (x) outdated (x) scale ( ) accuracy ( ) availability ( ) cost ( ) other no source given

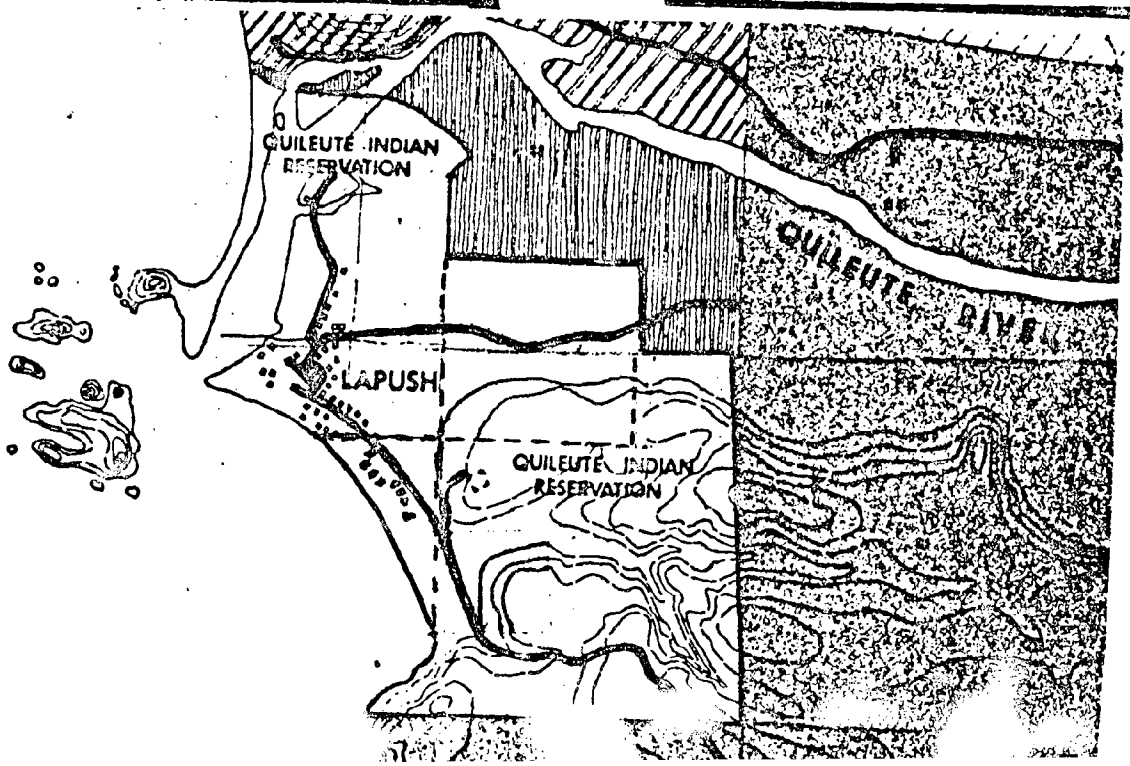
Comments: Proposal only - outdated because of new design.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside Community Consultants

Name KG

Date 6/3/78

DATA SURVEY FORM

I. Variable Name Utilities

II. Source US Army Corps of Engineers
Environmental Evaluation - Quileute River Spit Restoration Project, 1975 Page 21

III. Contact Person/ Location of Data

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: NA
3. Contour interval: NA
4. Level of detail (minimum geographic area): general
5. Agency that generated data: CH2M, Indian Health Service
6. Date data produced: ?
7. Classifications of data:
   a. Number
   b. Listing water supply, sewage disposal
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

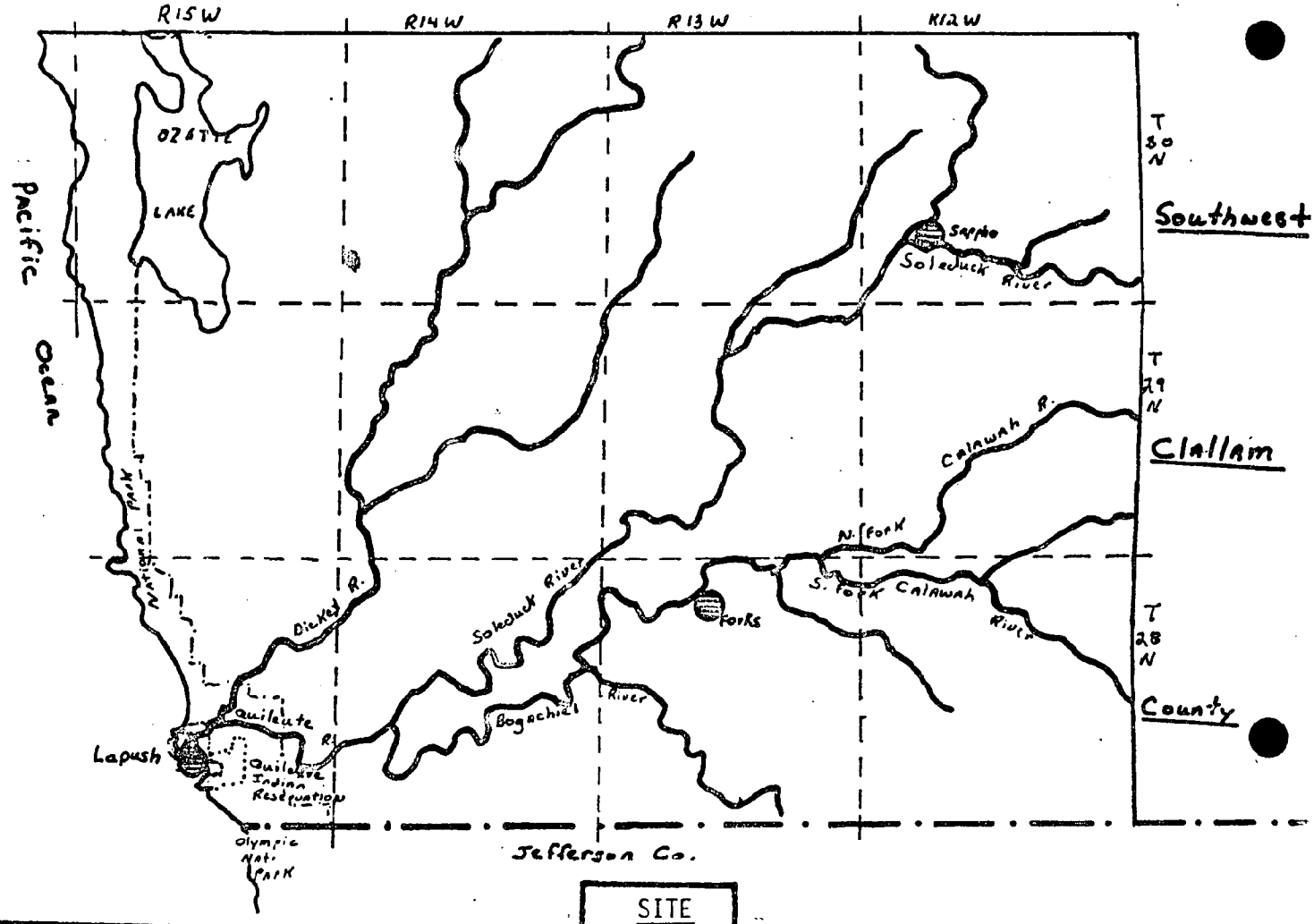
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other not mappable or transferable to map

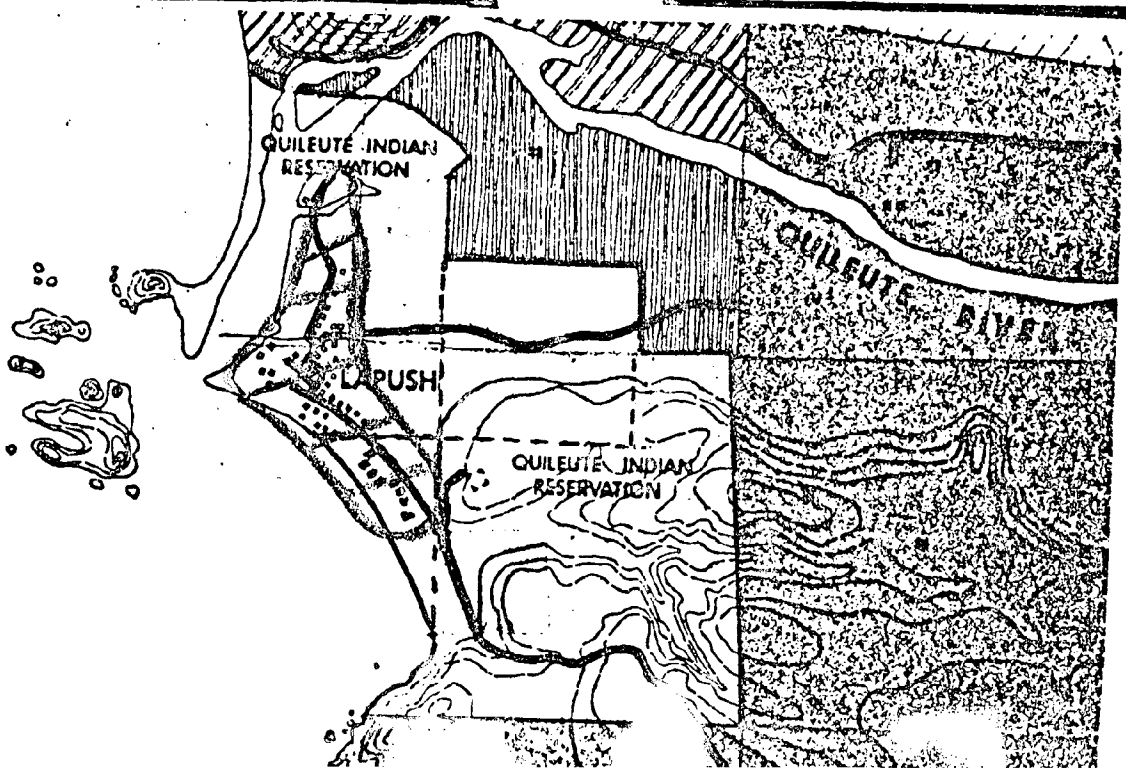
Comments: OK for background description.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



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onsultants

Name KG

Date 5/31/78

DATA SURVEY FORM

. Variable Name LaPush Village Existing Land Use

. Source People Space Architecture Page

Planning Document 2, 1973

. Contact Person/
Location of Data

provided by tribe

CHARACTERISTICS OF DATA

Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other

Scale of data: 1" = 2 miles

Contour interval: NA

Level of detail: general
(minimum geographic area)

Agency that generated data: People Space Architecture

Date data produced: 1973

Classifications of data:

a. Number 6

b. Listing Residential, commercial, institutional, industrial, wilderness, Coast Guard.

Is data available? (x) Yes ( ) No

Cost of data:

EVALUATION

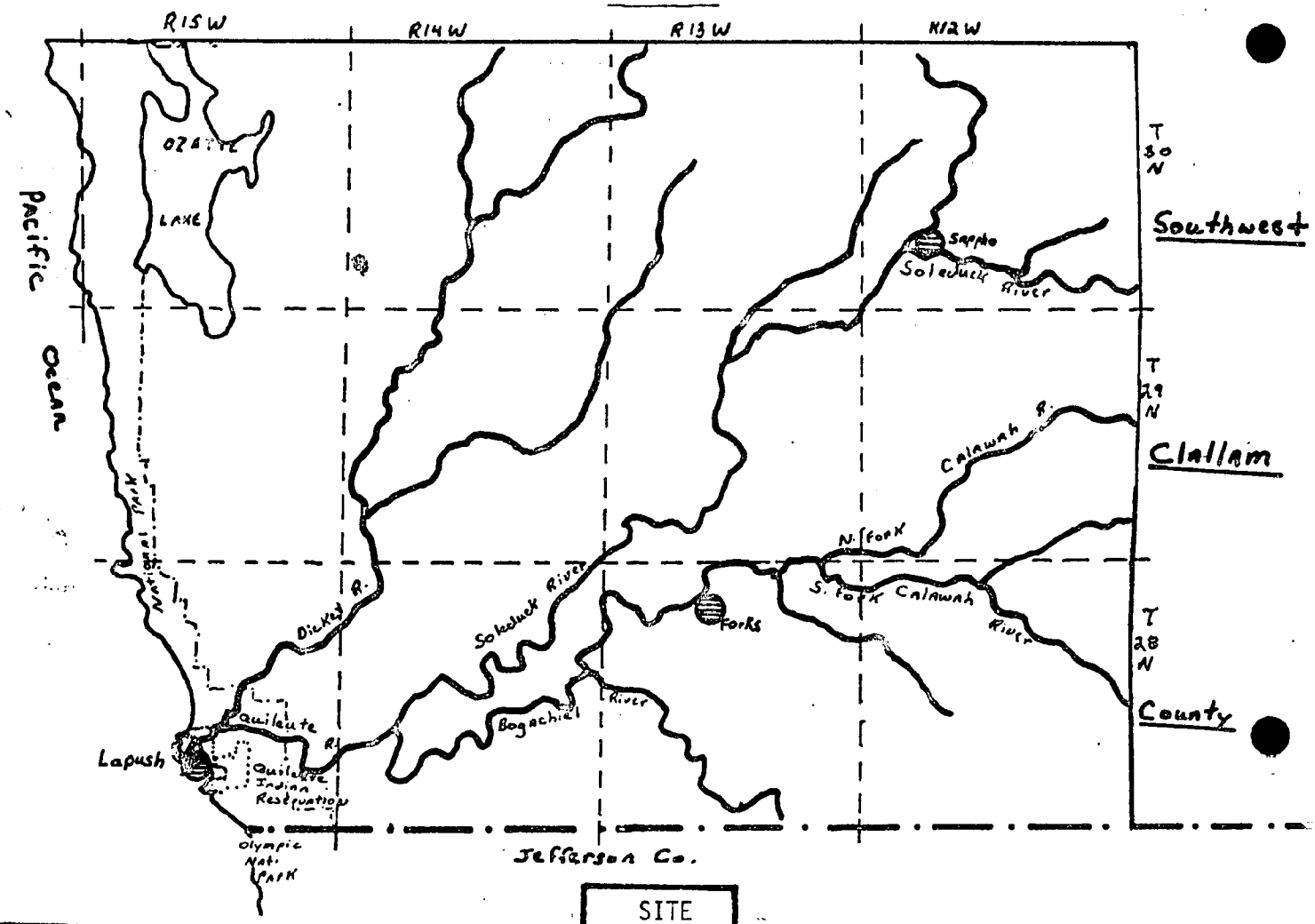
itability: ( ) suitable ( ) suitable with modification (x) not suitable

mitations: (x) outdated (x) scale ( ) accuracy ( ) availability ( ) cost
( ) other not specific categories

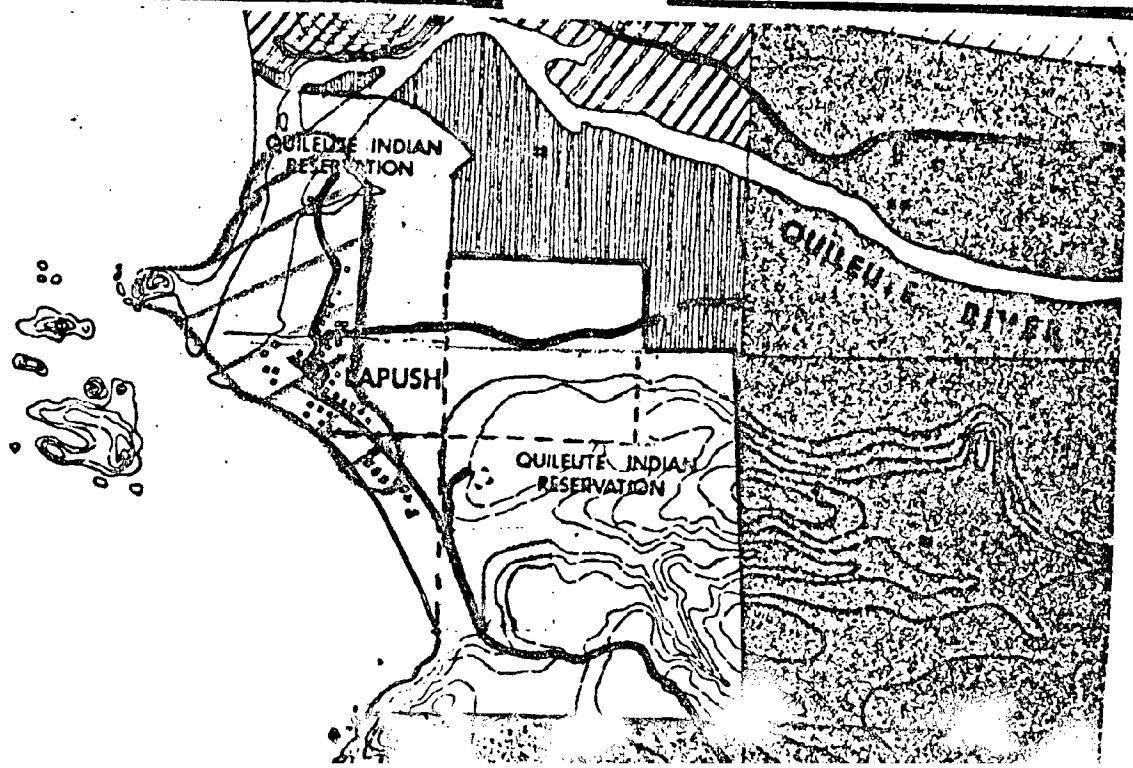
mments: Categories too general for all but background reference.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 5/31/78

DATA SURVEY FORM

I. Variable Name Existing Land Use

II. Source People Space Architecture, Page none indicated
Planning Document 2, 1973

III. Contact Person/ Location of Data provided by tribe

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 2" = 1 mile

3. Contour interval: 40 ft.

4. Level of detail: general
(minimum geographic area)

5. Agency that generated data: People Space Architecture

6. Date data produced: 1973

7. Classifications of data:
   a. Number 4
   b. Listing Tribal Trust Land, National Park Service Land coterminous to Reservation,
   NPS high density recreational development, NPS land (other)

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

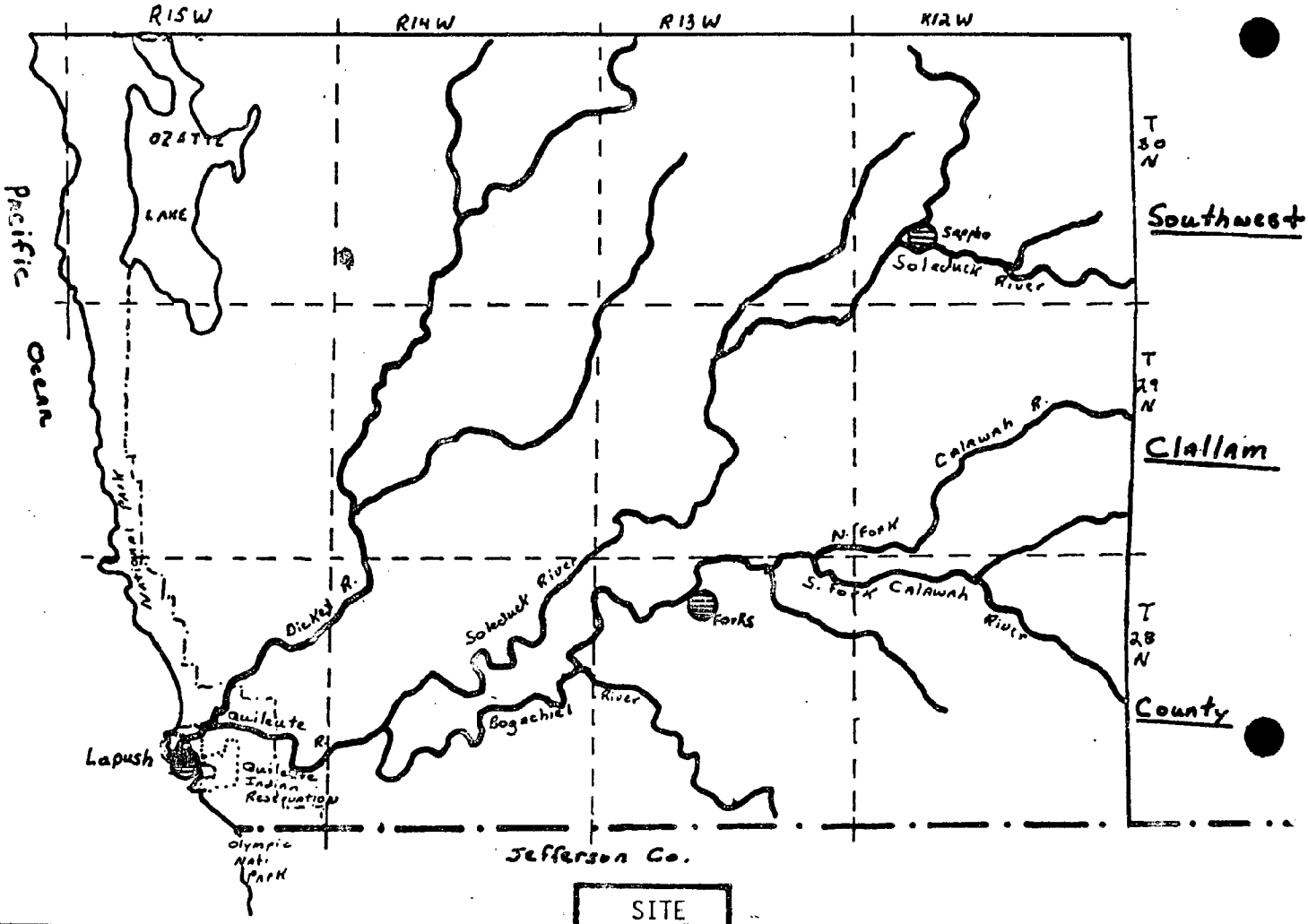
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale ( ) accuracy ( ) availability ( ) cost
( ) other categories too general

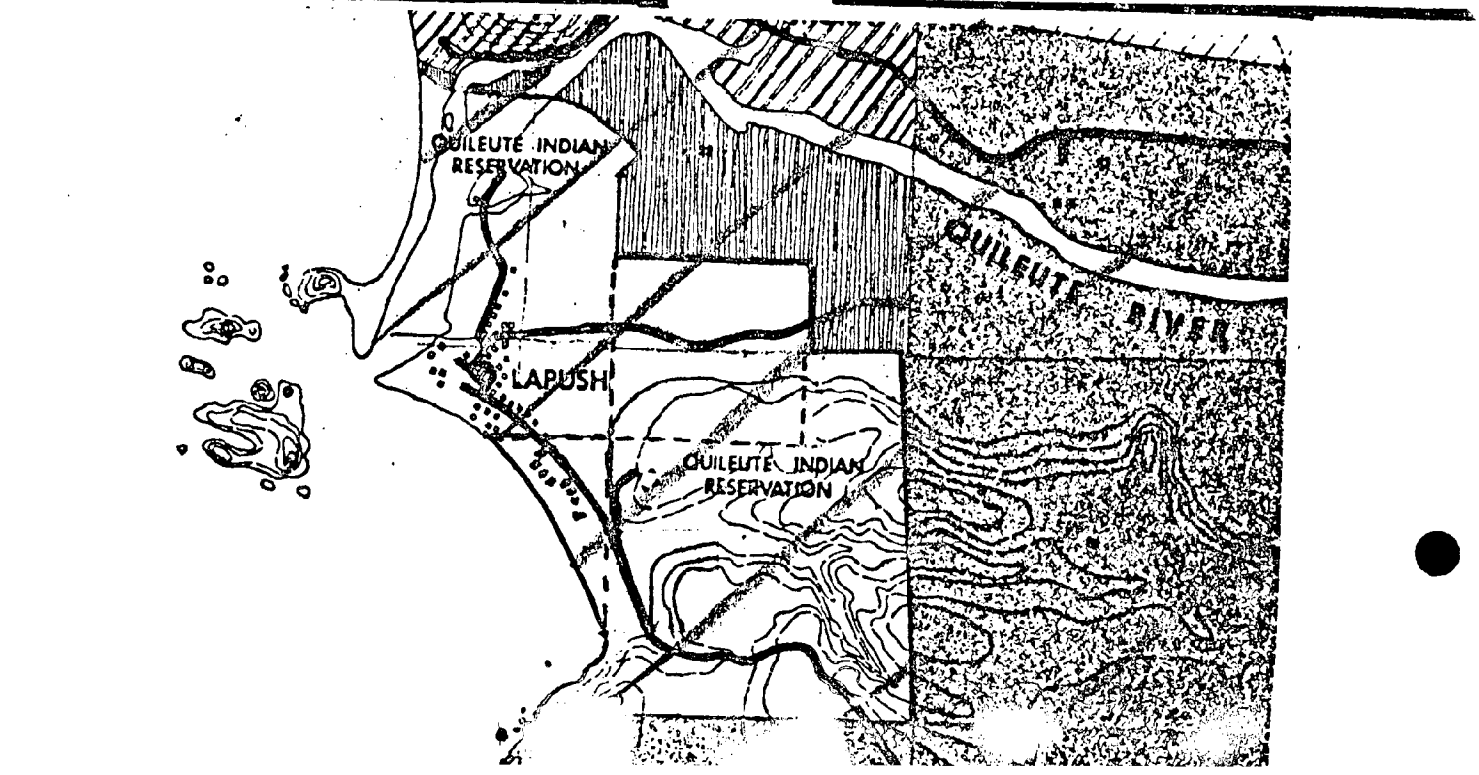
Comments: OK for background reference but categories are not appropriate for planning.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/8/78

DATA SURVEY FORM

I. Variable Name Land Use Plan

II. Source Pauley, A Plan for the Quileute Reservation, 1972 Page Map in Appendix

III. Contact Person/ Location of Data Office of BIA, Everett

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other schematic map
2. Scale of data: 1" = 400'
3. Contour interval: 40'
4. Level of detail: (minimum geographic area) good
5. Agency that generated data: Pauley & Assoc.
6. Date data produced: 1972
7. Classifications of data: Schematic
   a. Number
   b. Listing Hatchery, homesites, boat basin, fill, future mobile home site, commercial acre, school site, playground and beach.
8. Is data available? (X) Yes ( ) No
9. Cost of data:

EVALUATION

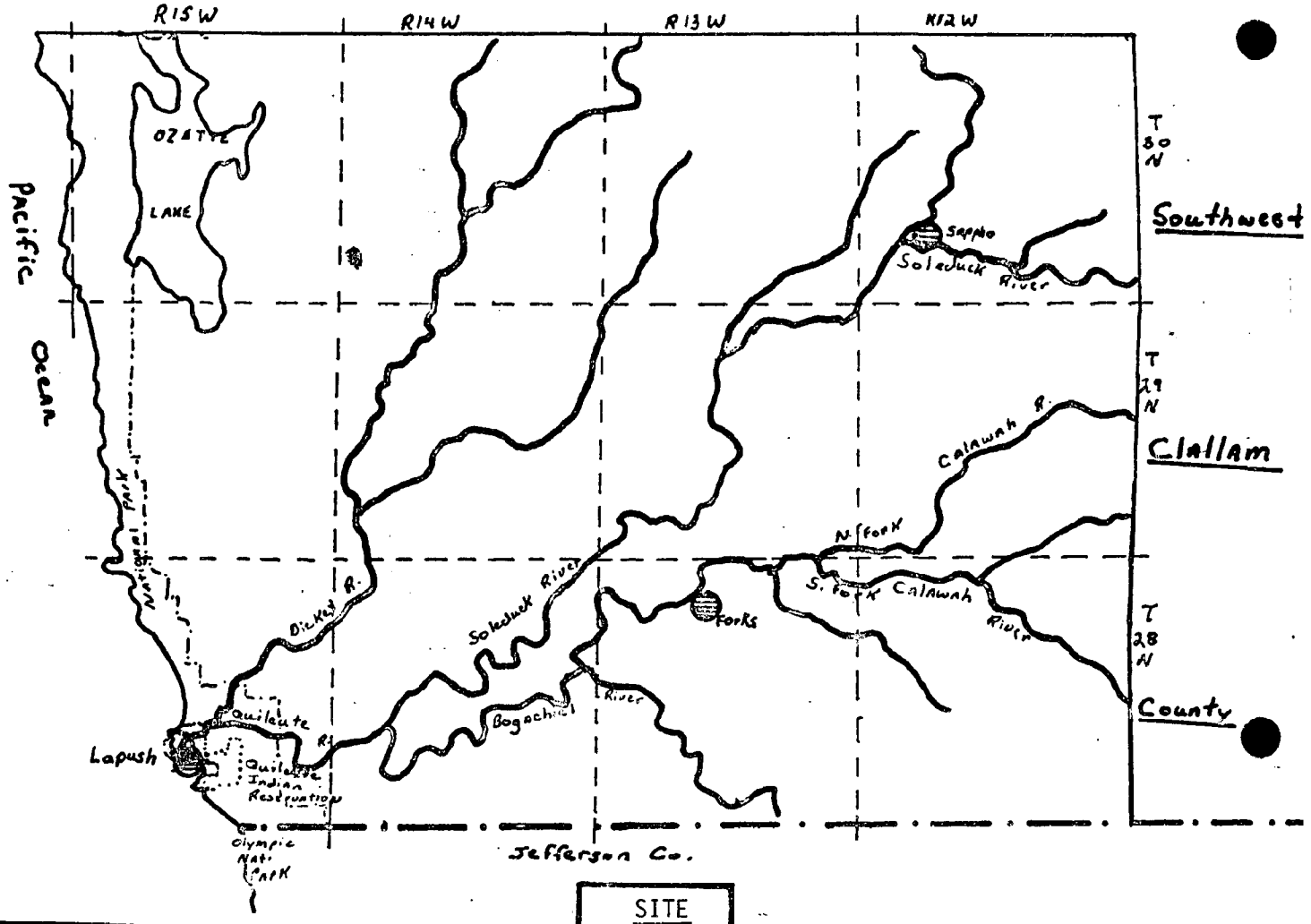
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other only for reference

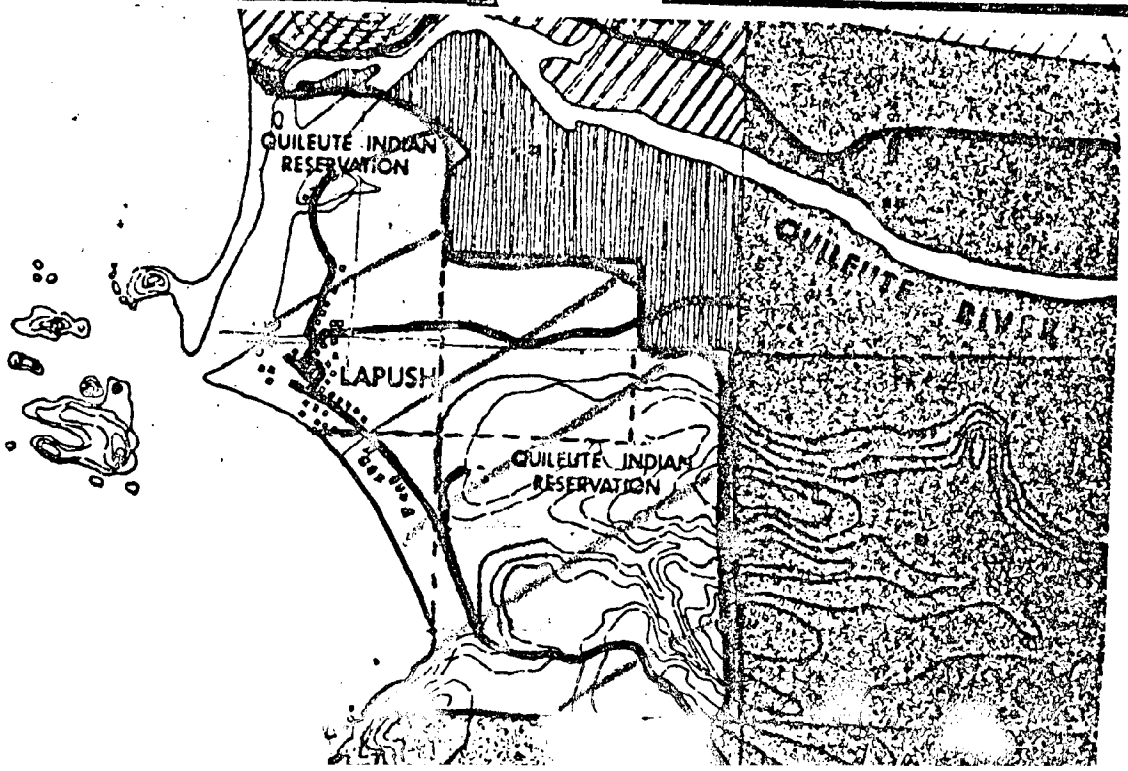
Comments: Not very practical, may be interesting to map as background information at site level.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 5/31/78

DATA SURVEY FORM

I. Variable Name LaPush Village Zoning

II. Source People Space Architecture, Planning Document 2, 1973 Page

III. Contact Person/ Location of Data provided by tribe

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 2" = 1 mile
3. Contour interval: NA
4. Level of detail: good 1 acre (minimum geographic area)
5. Agency that generated data: People Space Architecture
6. Date data produced: 1973
7. Classifications of data:
   a. Number 6
   b. Listing residential, commercial, institutional, industrial, wilderness, Coast Guard, agriculture, no construction
8. Is data available? ( ) Yes ( ) No
9. Cost of data:

EVALUATION

Suitability: (x) suitable ( ) suitable with modification ( ) not suitable

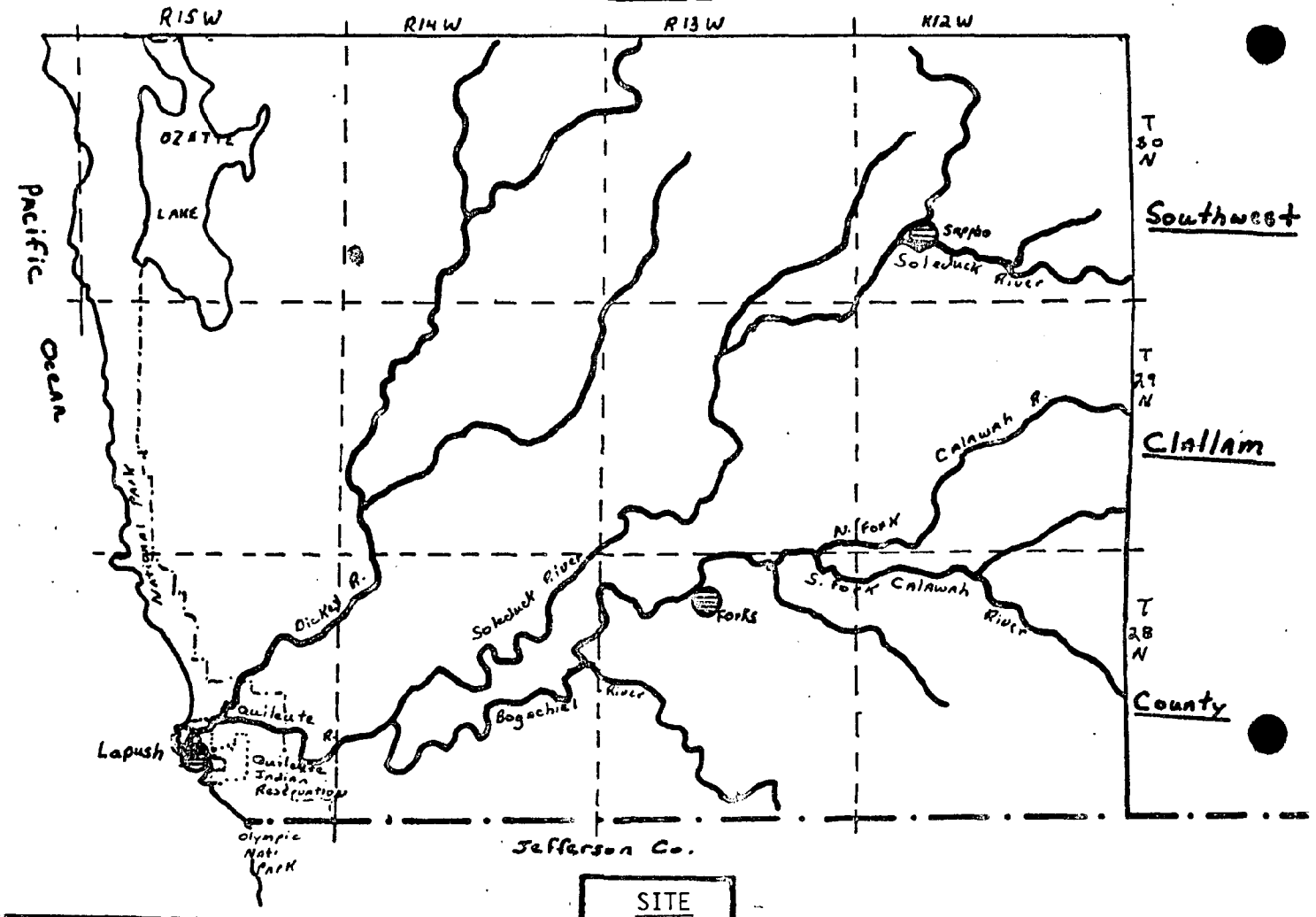
Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost (x) other proposal, not existing condition

Comments: Proposal - does not reflect present condition.

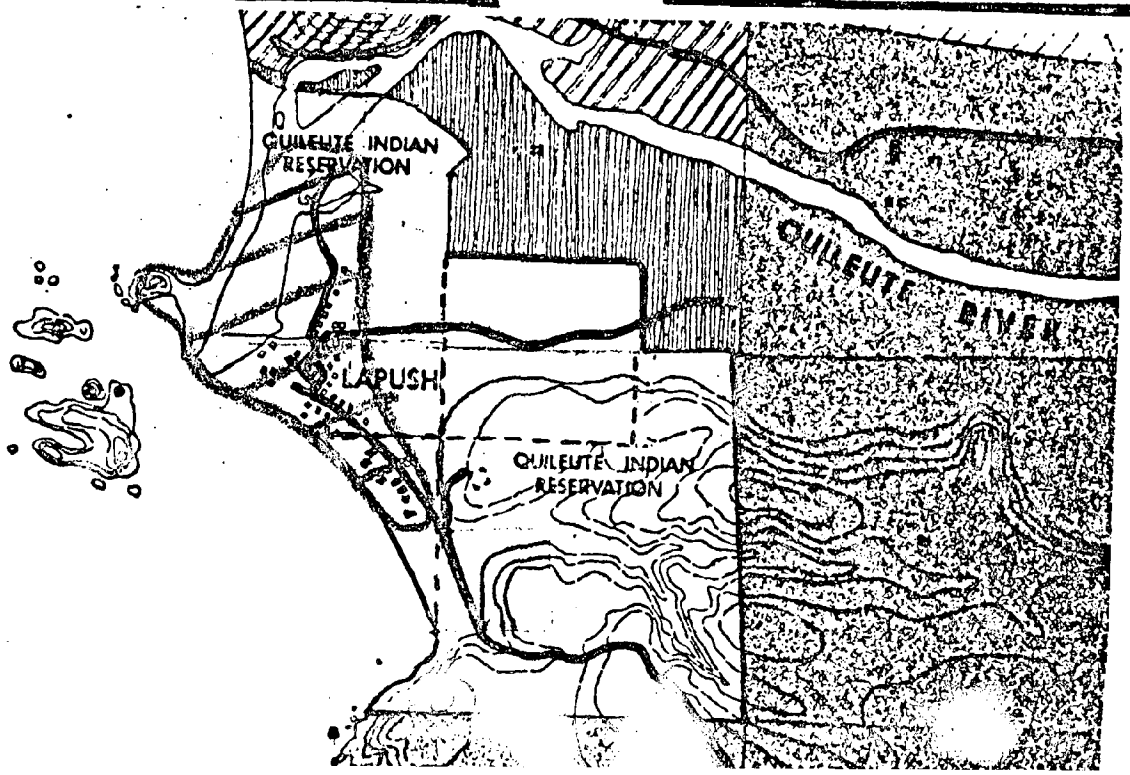
Suitable as background data only at reservation scale.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name BB

Date 6/17/78

DATA SURVEY FORM

I. Variable Name Land Analysis/Reservation Lands

II. Source Pauley, A Plan for Quileute Tribe, 1972 Page A-10, A-11

III. Contact Person/ Location of Data Office of BIA, Everett

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo ( ) text (x) tabular ( ) digital ( ) other

2. Scale of data: NA

3. Contour interval: NA

4. Level of detail: (minimum geographic area) in acres

5. Agency that generated data: ?

6. Date data produced: ?

7. Classifications of data:
   a. Number 2 lowlands - below 16' elevation; highlands above 16' elevation.
   b. Listing Ocean shore; level & slope to 8%; 8-o0%; over 18%; floodplain.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

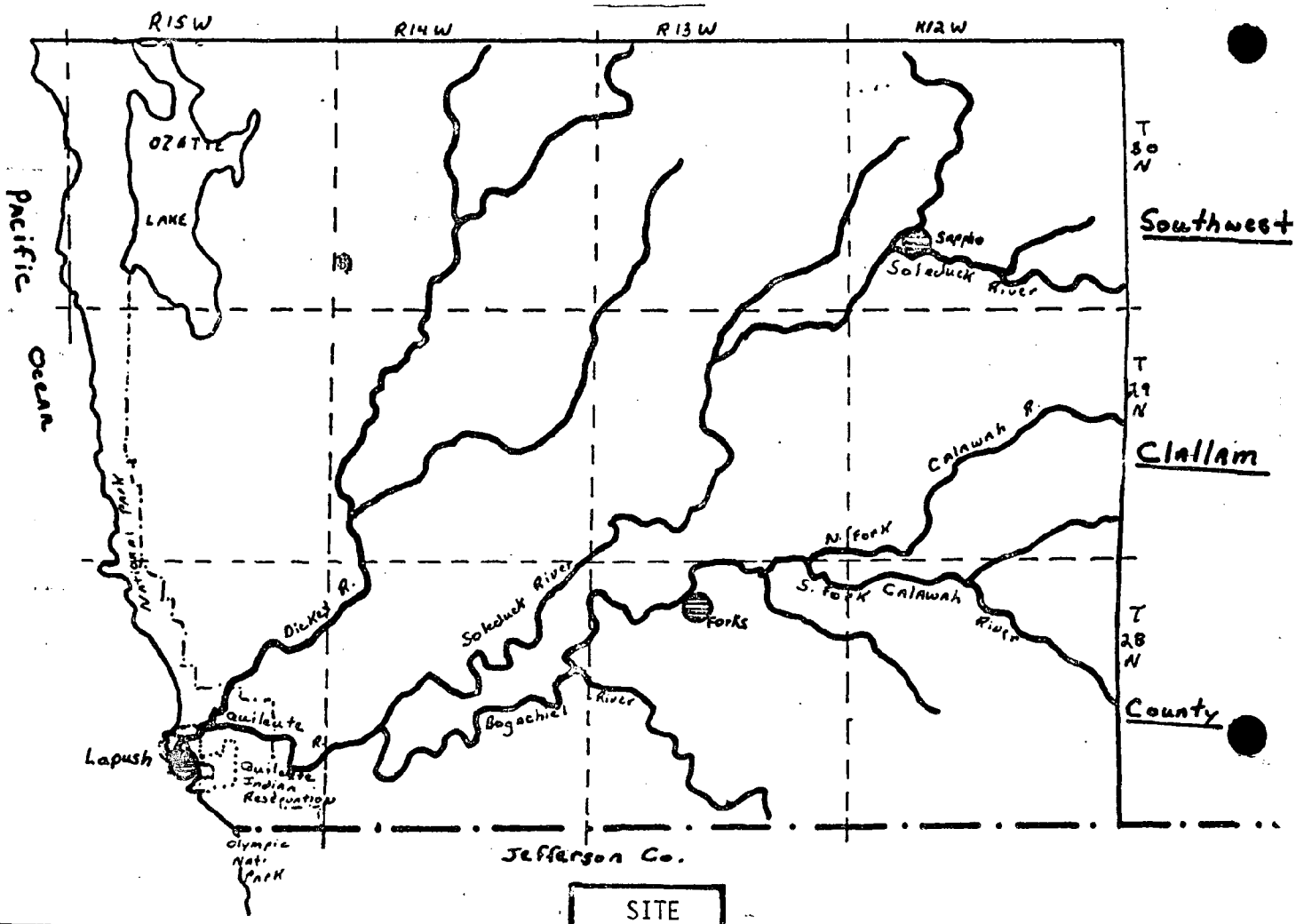
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other

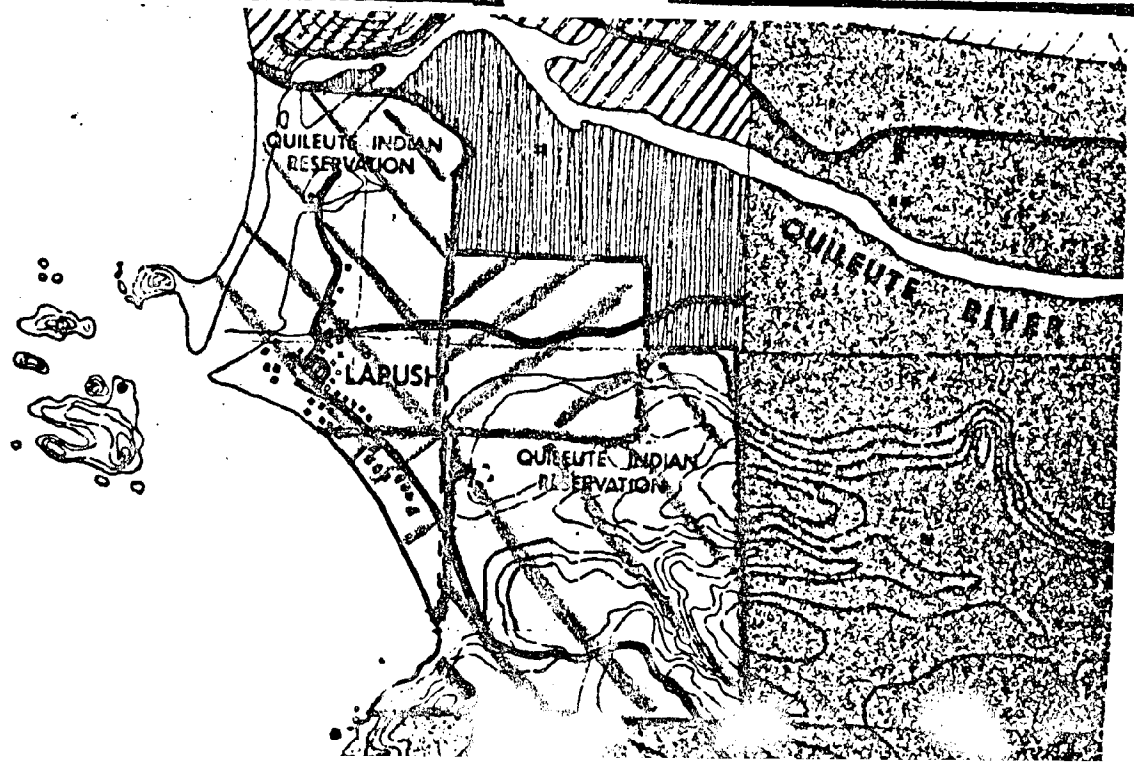
Comments: Information not mapped; Smith & Hattle Bright properties treated separately from recognized Quilente Reservation lands.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 5/31/78

DATA SURVEY FORM

I. Variable Name Proposed Land Use

II. Source People Space Architecture
Planning Document 2, 1973 Page

III. Contact Person/
Location of Data provided by tribe

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: 2" = 1 mile

3. Contour interval: 40 ft.

4. Level of detail: general
(minimum geographic area)

5. Agency that generated data: People Space Architecture

6. Date data produced: 1973

7. Classifications of data:
   a. Number 11
   b. Listing residential, commercial, institutional/school, recreation, agriculture, Coast Guard, cemetery, sewage treatment, coop agriculture, NPS high density recreation, industrial

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

Suitability: (x) suitable ( ) suitable with modification ( ) not suitable

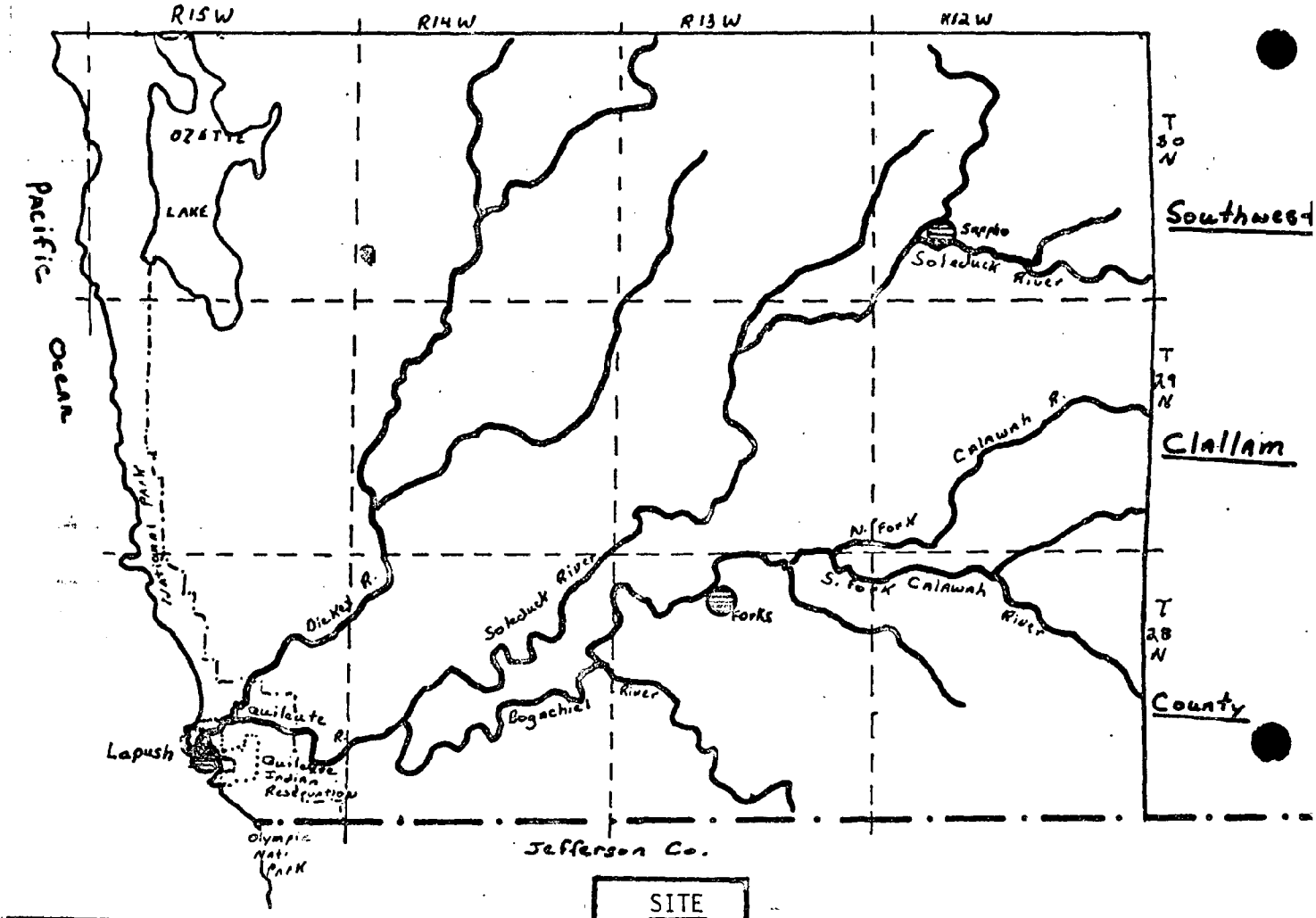
Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost
(x) other proposal, not a mapping of existing use.

Comments: This is a proposal. It does not reflect present activity.

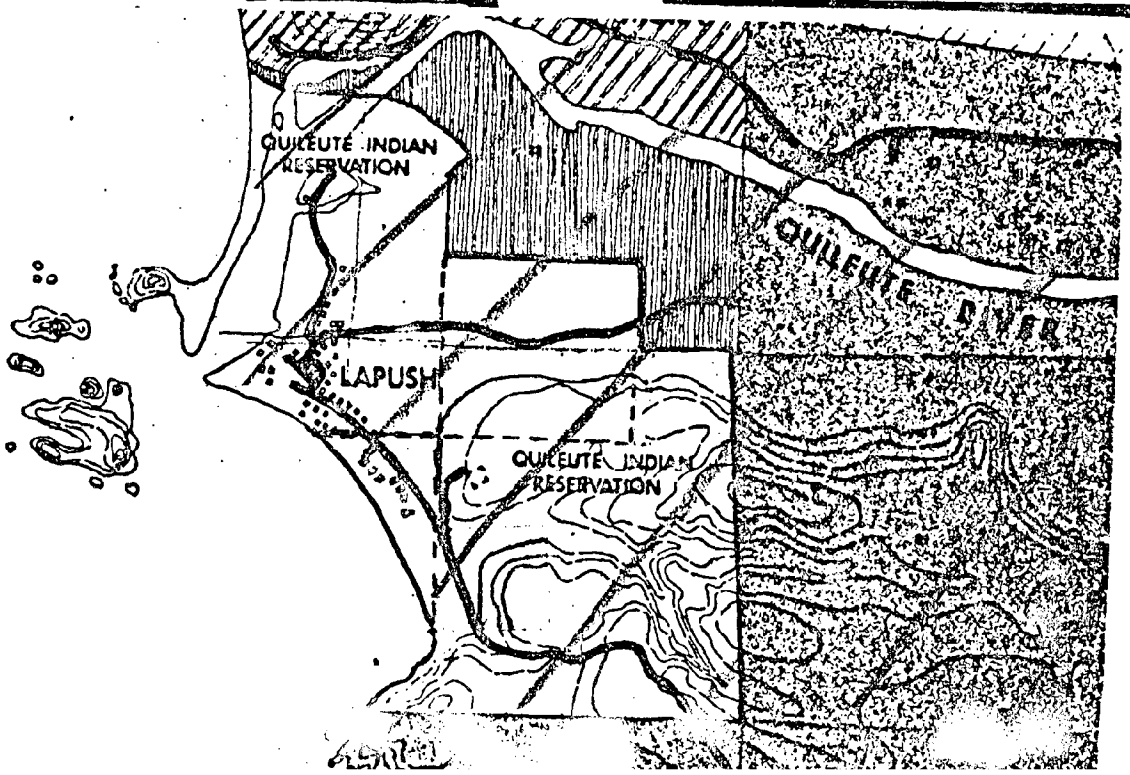
Good for background information.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name B. B. 86

Date 6-27-78

DATA SURVEY FORM

I. Variable Name Plat Map of Reservation/Land Ownership

II. Source Not indicated Page

III. Contact Person/ Location of Data Provided by tribe.

CHARACTERISTICS OF DATA

1. Source format: (X) mapped ( ) air photo (X) text ( ) tabular ( ) digital ( ) other
2. Scale of data: ?
3. Contour interval: NA
4. Level of detail (minimum geographic area): LaPush community area
5. Agency that generated data: Not indicated; assumed BIA
6. Date data produced: ?
7. Classifications of data:
   a. Number 3 categories of ownership
   b. Listing assumed to tribal; individual(ownership owners named)
      federal status
8. Is data available? (X) Yes ( ) No
9. Cost of data:

EVALUATION

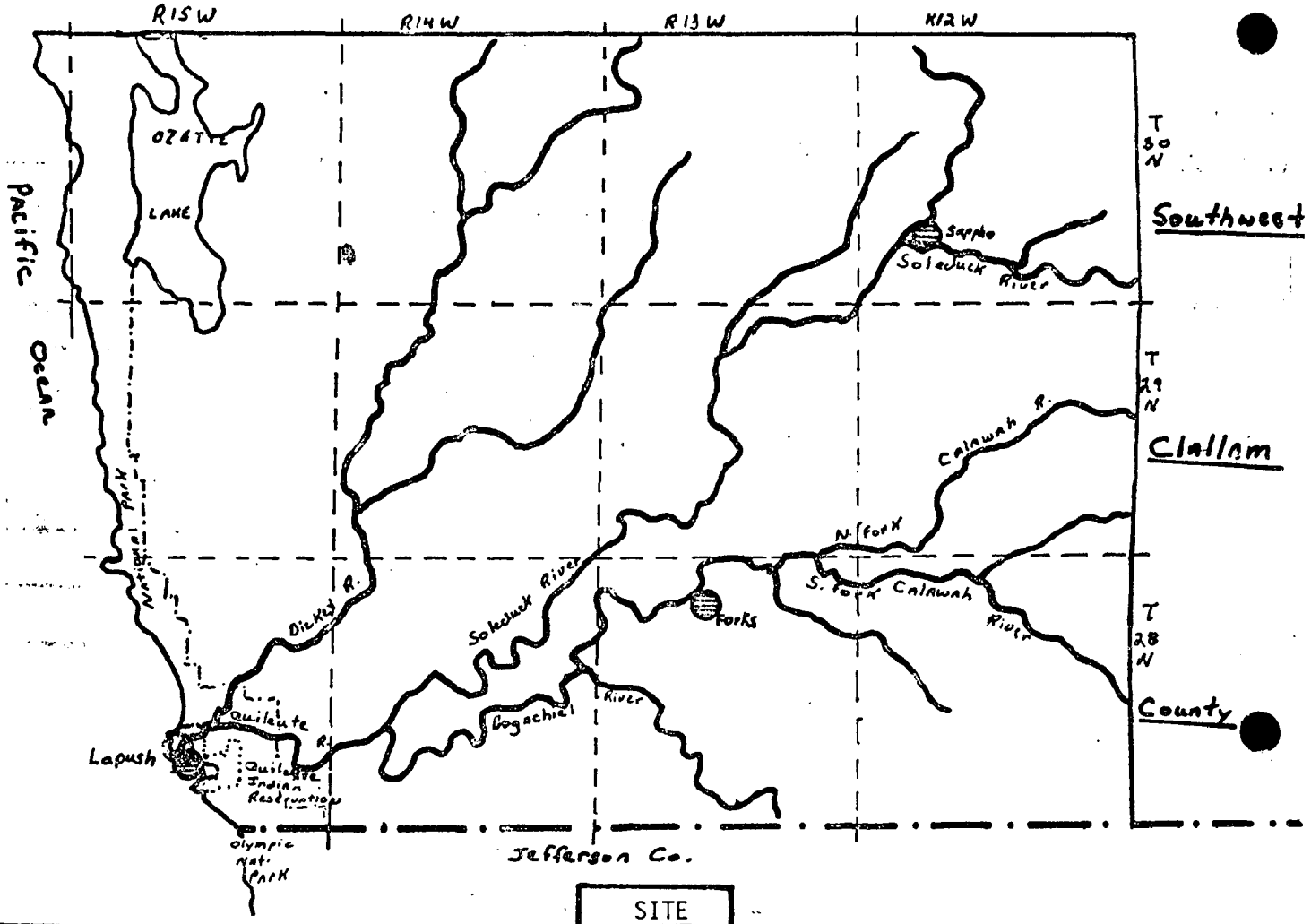
Suitability: ( ) suitable (X) suitable with modification ( ) not suitable

Limitations: (X) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other

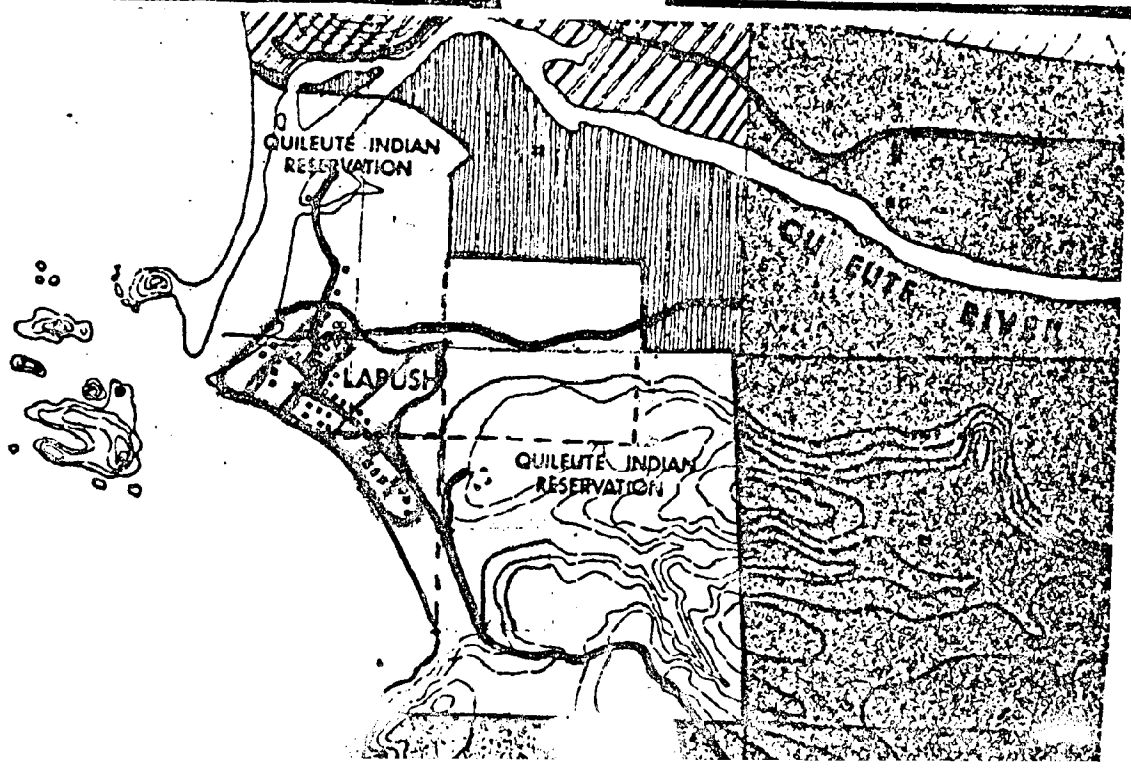
Comments: Information needs to be updated; information available from BIA Portland or F. Parot, Real Property Division, BIA, Everett. Once basemap is available may be possible to have either of the above agencies transcribe updated parcel information onto it.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/1/78

DATA SURVEY FORM

I. Variable Name Archeological Features

II. Source U.S. Army Corps of Engineers, Washington Environmental Atlas, 1975 Page 58

III. Contact Person/ Location of Data Clallam Co. Planning Office & County Library

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1:750,000
3. Contour interval: NA
4. Level of detail: Very general, not site specific
(minimum geographic area)
5. Agency that generated data: Corps of Engineers
6. Date data produced: 1975
7. Classifications of data:
   a. Number 5
   b. Listing relative intensities of likely occurrence of archeological features.
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

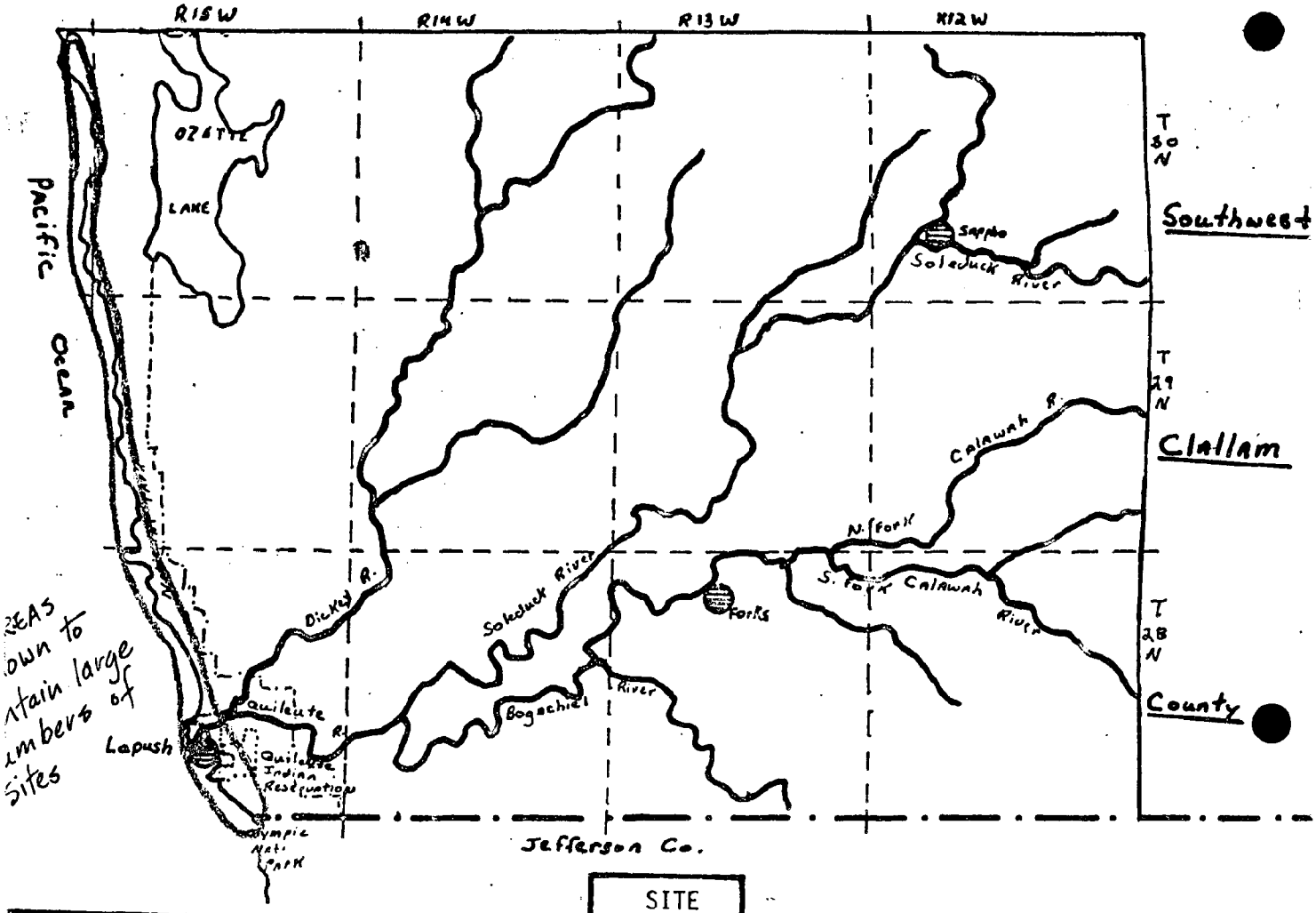
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other

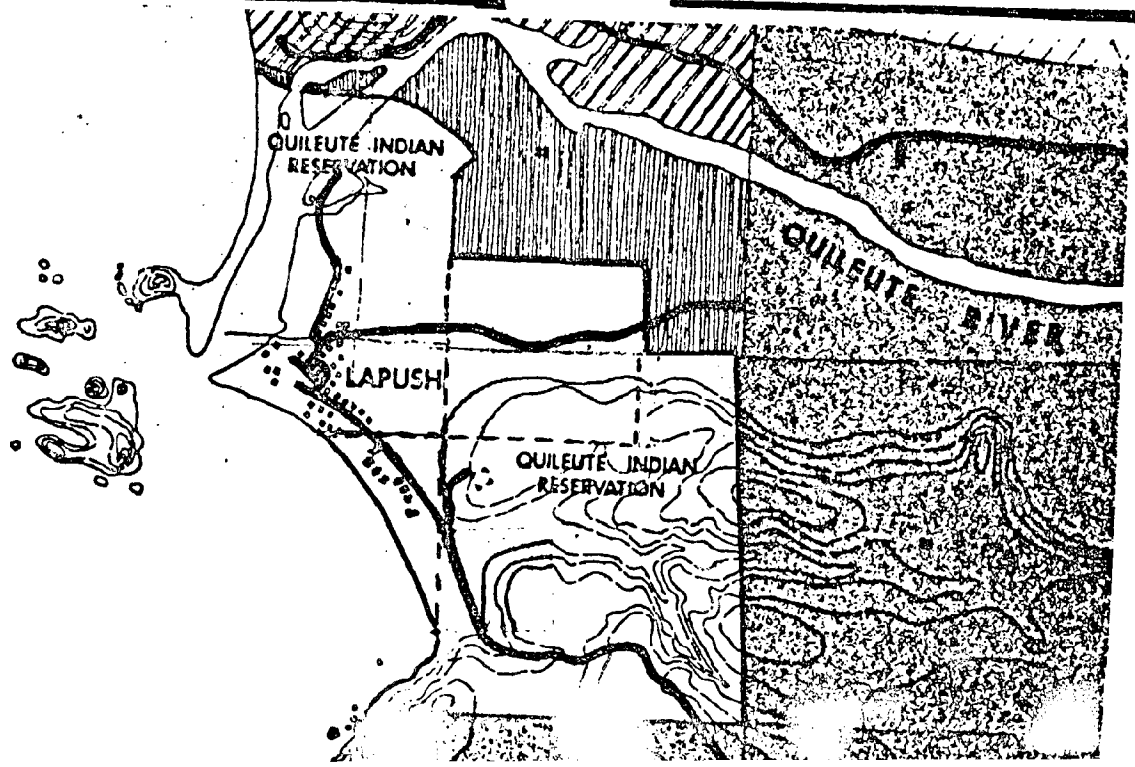
Comments: Only indicates that sites might be found on reservation, does not locate them. Suitable for regional background data only.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



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Name KG

Date 6/9/78

DATA SURVEY FORM

. Variable Name Archeological Significance

. Source Duncan, Archeological Investigation at the LaPush Village Site - An Interim Report, 1977 Page 6

. Contact Person/ Location of Data Provided by tribe.

CHARACTERISTICS OF DATA

Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other

Scale of data: NA

Contour interval: NA

Level of detail: NA
(minimum geographic area)

Agency that generated data: Office of Public Archeology, U of W

Date data produced: 1975-76

Classifications of data:

a. Number

b. Listing Description of location and contents of archeological dig, stratigraphy, chronological relationships, radiocarbon dating

Is data available? (x) Yes ( ) No

Cost of data:

EVALUATION

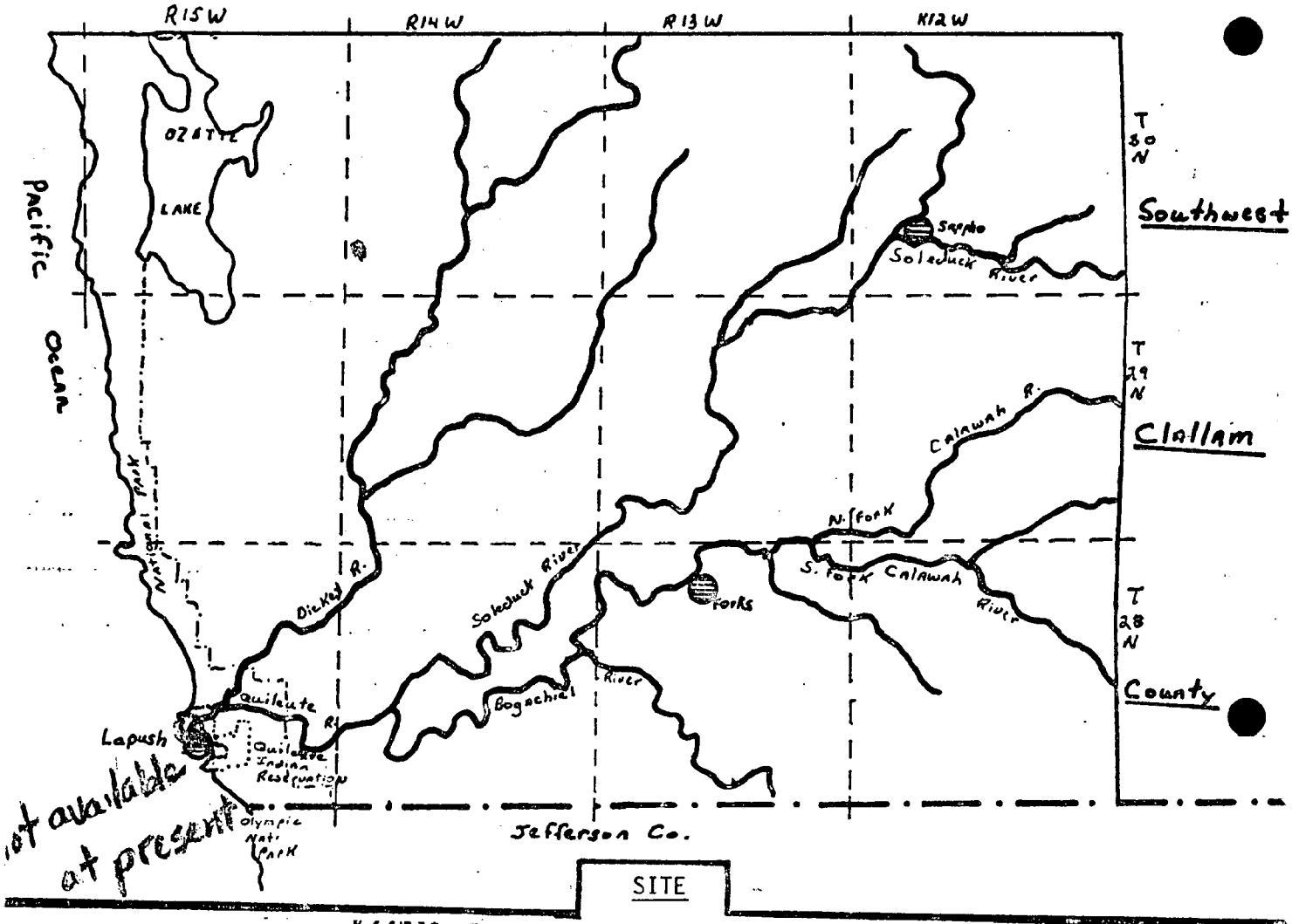
itability: ( ) suitable (x) suitable with modification ( ) not suitable

imitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other not mapped

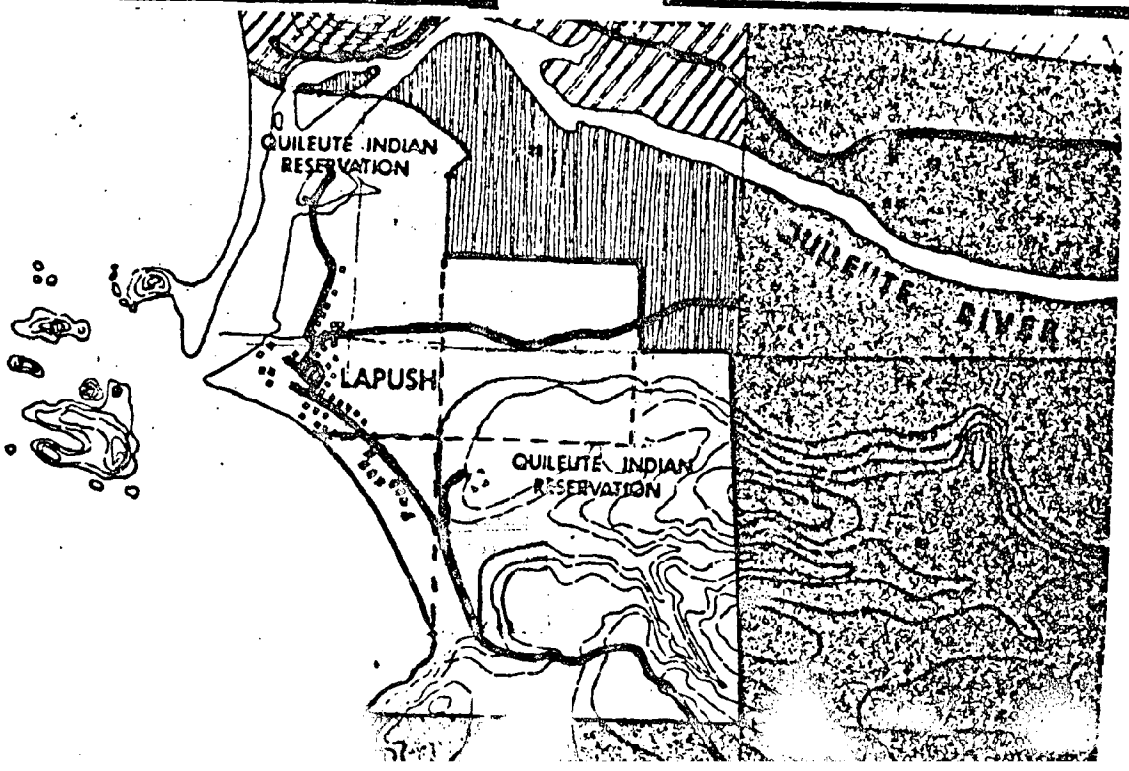
mments: Perhaps we can get investigaters to transpose their data on our map. If this can be done it will be an excellent source of data on reservation.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/1/78

DATA SURVEY FORM

I. Variable Name Historical and Cultural Features

II. Source U.S. Army Corps of Engineers, Washington Environmental Atlas, 1975 Page 64

III. Contact Person/ Location of Data Clallam Co. Planning Office & County Library

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CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text ( ) tabular ( ) digital ( ) other

2. Scale of data: 1:750,000

3. Contour interval: NA

4. Level of detail: Very general activity categories.
(minimum geographic area)

Agency that generated data: Corps of Engineers

5. Date data produced: 1975

7. Classifications of data:
   a. Number 13
   b. Listing Historic places, fairs and festivities and ethnic sites or areas, and trail corridor - identified on site.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

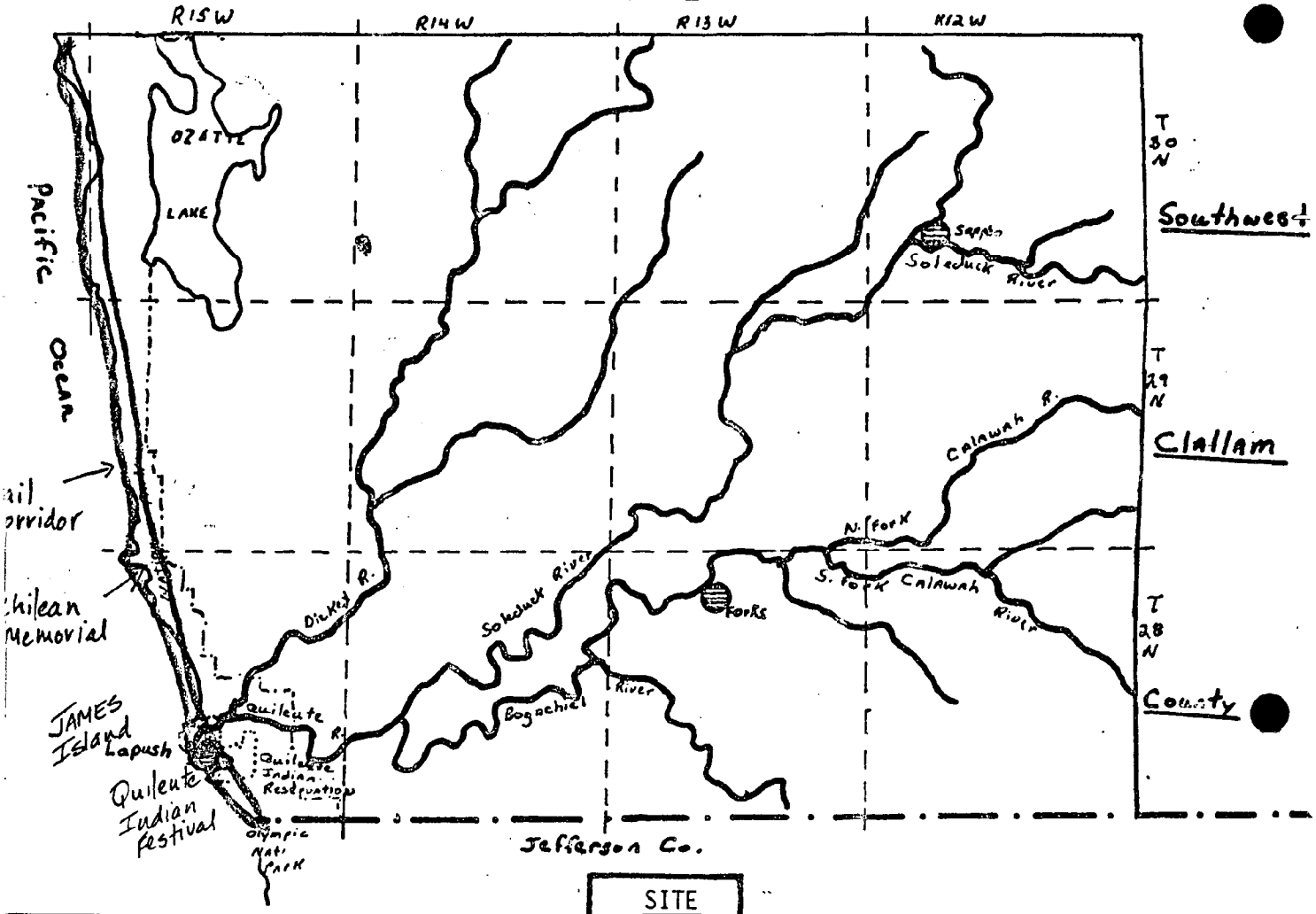
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale ( ) accuracy ( ) availability ( ) cost ( ) other too general

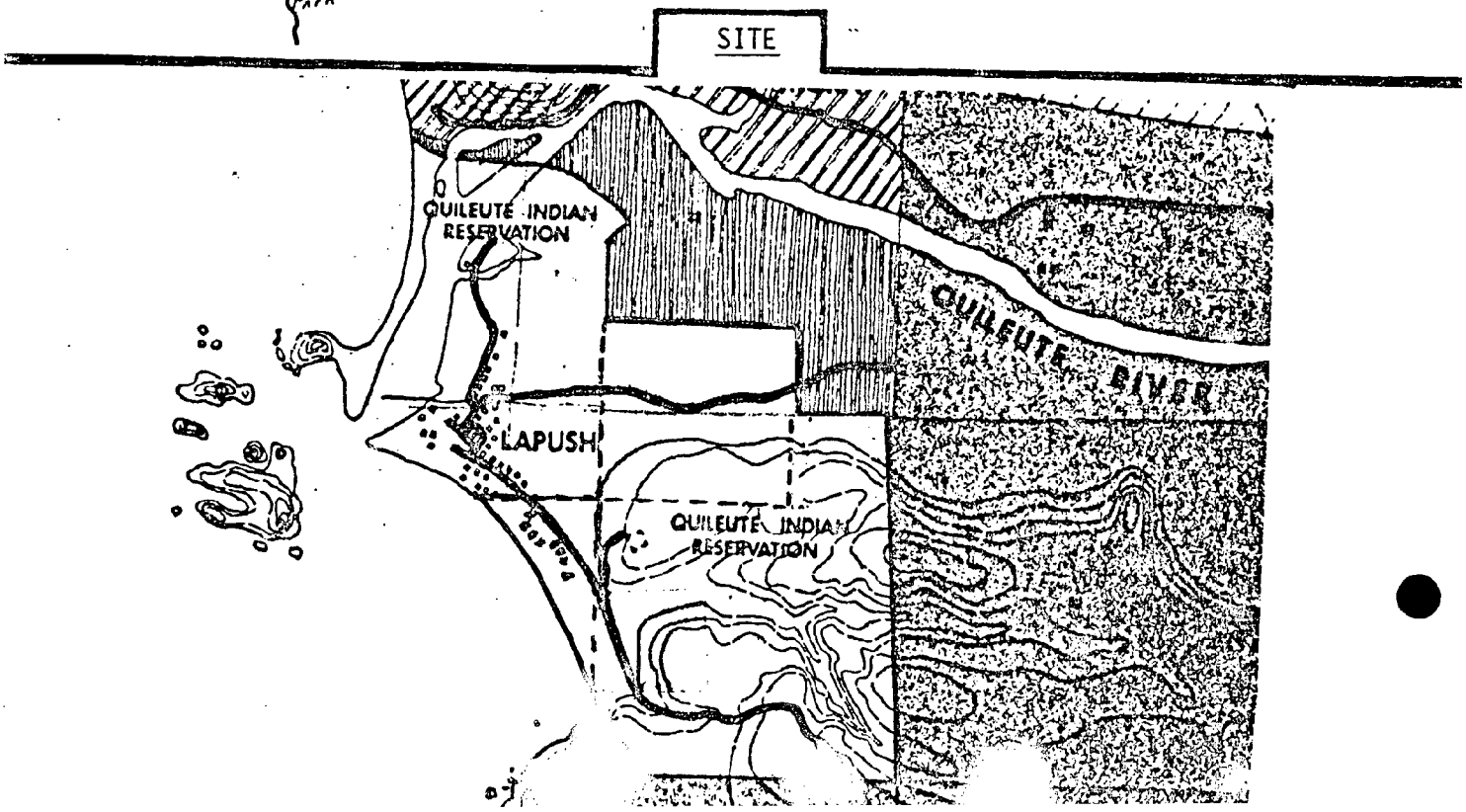
Comments: Useful for reference only.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



SITE



Southside
Community
Consultants

Name KG

Date 6/07/78

DATA SURVEY FORM

I. Variable Name Cultural Features

II. Source Wash. State Dept. of Highways Page

General Highway Map - Clallam

County, Western sheet, 1969

III. Contact Person/ Location of Data Clallam Co. Engineering Office

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CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital
( ) other

2. Scale of data: Approx. 1" = 1 mile

3. Contour interval: NA

4. Level of detail: General
(minimum geographic area)

5. Agency that generated data: Dept. of Highways

6. Date data produced: 1969

7. Classifications of data:
   a. Number
   b. Listing Roads and jurisdiction
   Land use of structures and number of units

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

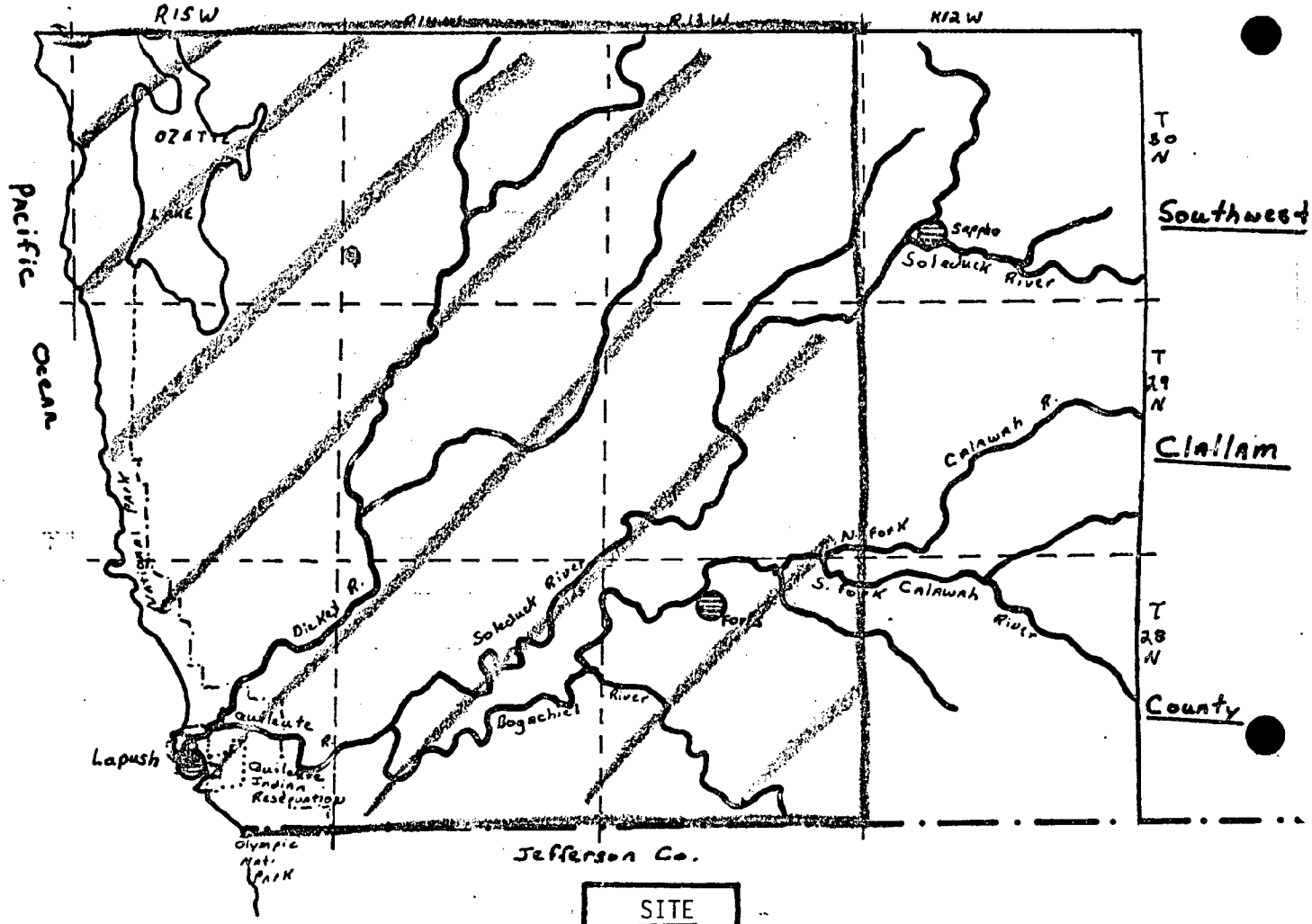
Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost
( ) other

Comments: At this scale structures are not positioned according to true position but data is useful as background if transferred to suitable base map and field checked.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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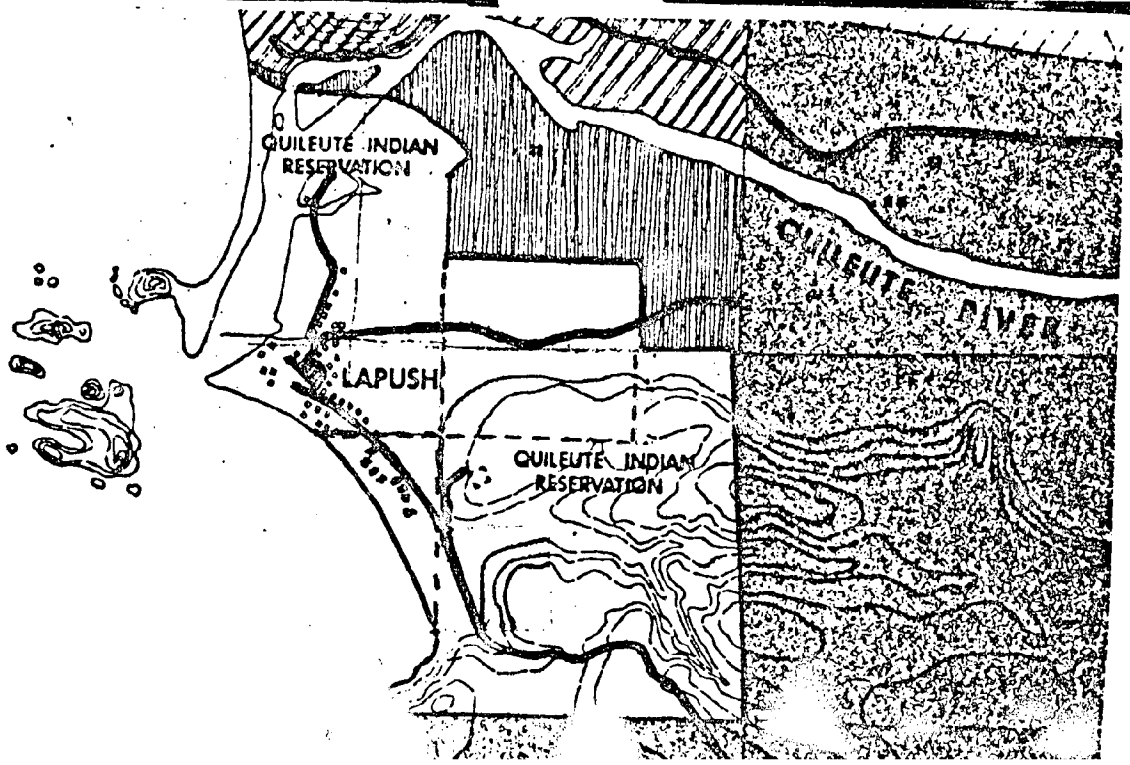


Southside Community Consultants

Name KG

Date 6/12/78

DATA SURVEY FORM

I. Variable Name Land Ownership

II. Source Pacific NW River Basin Commission Page Fig. 42
Comprehensive Framework Study,
Appendix IV, 1971

III. Contact Person/ Location of Data
WWU Library (WESTERN WASHINGTON UNIVERSITY)

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo (x) text (x) tabular ( ) digital
( ) other

2. Scale of data: 1" = 25 miles (approx.)

3. Contour interval: NA

4. Level of detail: Section
(minimum geographic area)

5. Agency that generated data: Pacific NW River Basin Comm.

6. Date data produced: 1968

7. Classifications of data:
   a. Number 7
   b. Listing Forest Service, BLM, NPS, f&W, Indian Res., state, private.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

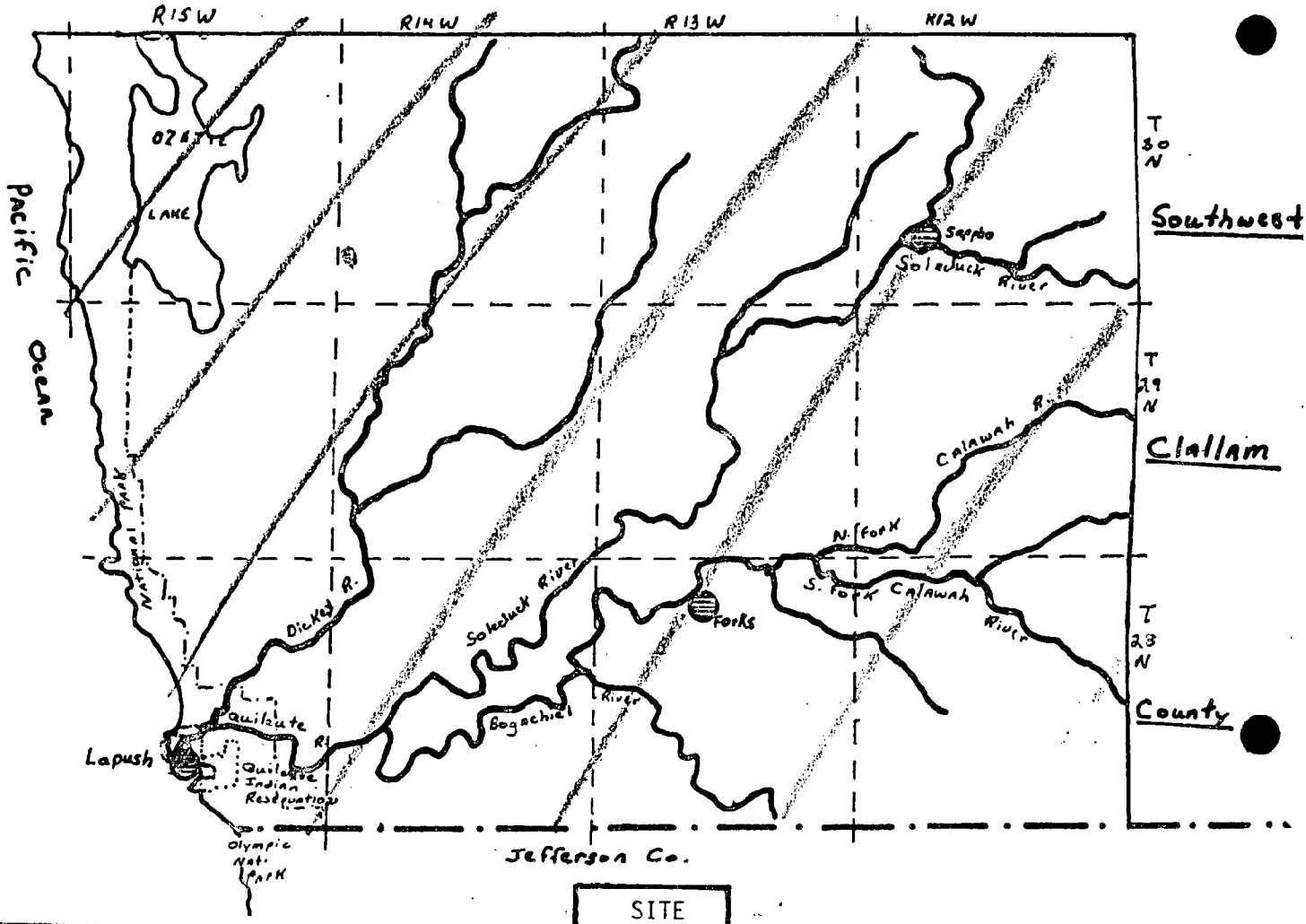
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: (x) outdated (x) scale ( ) accuracy ( ) availability ( ) cost
( ) other

Comments:
For regional background data only. DATA IS COUNTY-WIDE

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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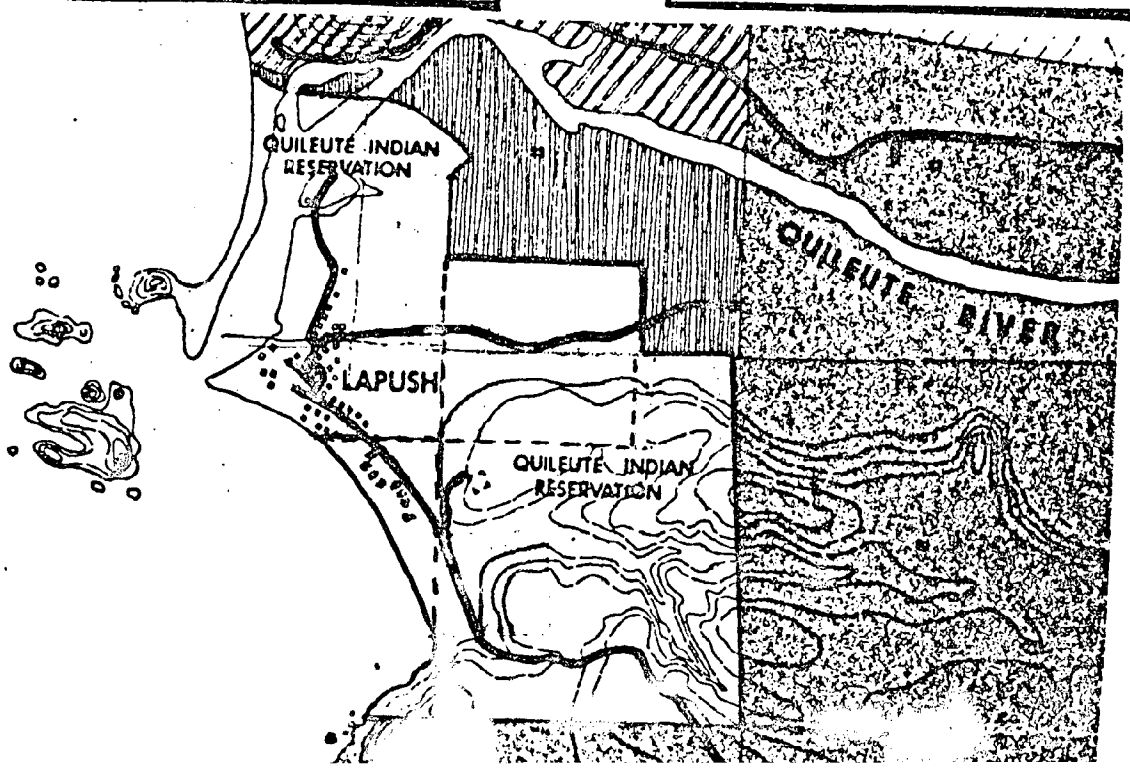


Southside
Community
Consultants

Name KG

Date 5/31/78

DATA SURVEY FORM

I. Variable Name Land Ownership

II. Source People Space Architecture, Planning Document I, 1973 Page

III. Contact Person/ Location of Data provided by tribe

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 2" = 1 mile
3. Contour interval: NA
4. Level of detail: (minimum geographic area) general, approx. 40 acres
5. Agency that generated data: presume People Space Architecture
6. Date data produced: 1973
7. Classifications of data:
   a. Number 6
   b. Listing County, private individual, private corporate, state, reservation, federal
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

Suitability: ( ) suitable (x) suitable with modification ( ) not suitable

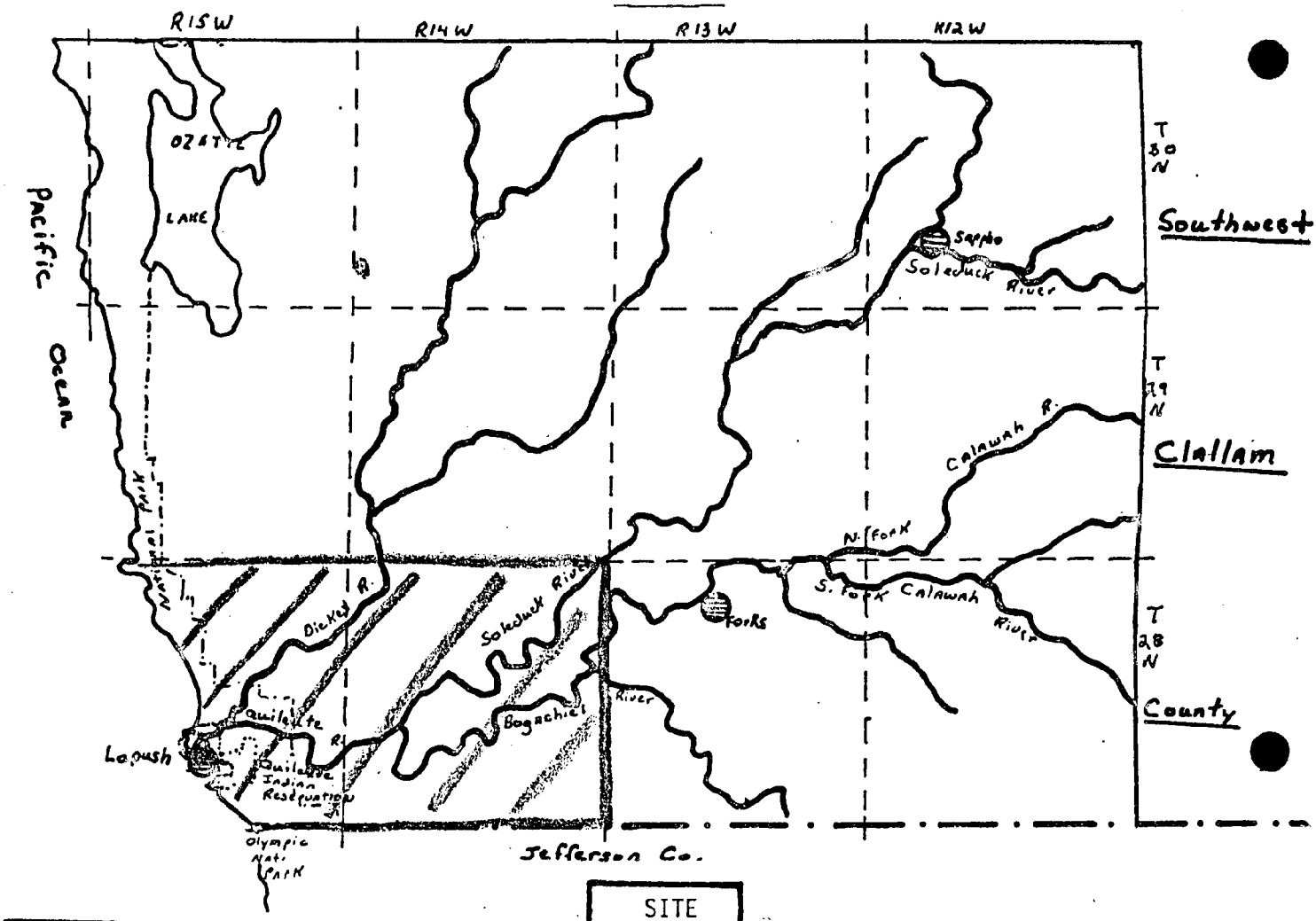
Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other

Comments:

Regional background only, not very accurate at site scale.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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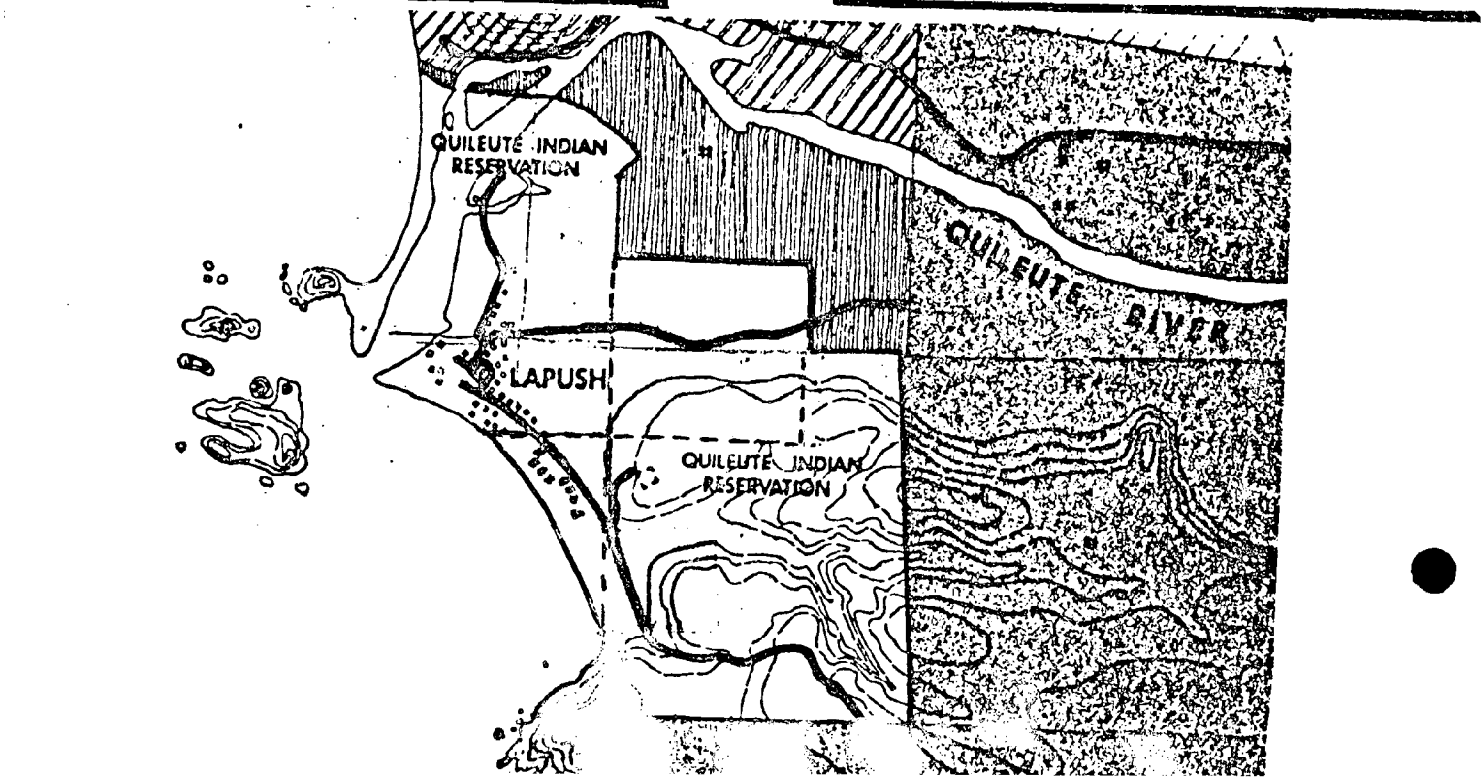


Southside Community Consultants

Name KG

Date 6/15/78

DATA SURVEY FORM

I. Variable Name Land Use

II. Source ENCON, North Olympic Coastal Basin Water Quality Management Plan, 1975 Page Figure 3

III. Contact Person/ Location of Data Clallam Co. Planning Dept. Port Angeles Library

CHARACTERISTICS OF DATA

1. Source format: (x) mapped ( ) air photo ( ) text ( ) tabular ( ) digital ( ) other
2. Scale of data: 1:125,000
3. Contour interval: NA
4. Level of detail: Very general (minimum geographic area)
5. Agency that generated data: ENCON
6. Date data produced: 1975
7. Classifications of data:
   a. Number 10
   b. Listing Land ownership, residential, agricultural, industrial, recreational, sport fishing
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

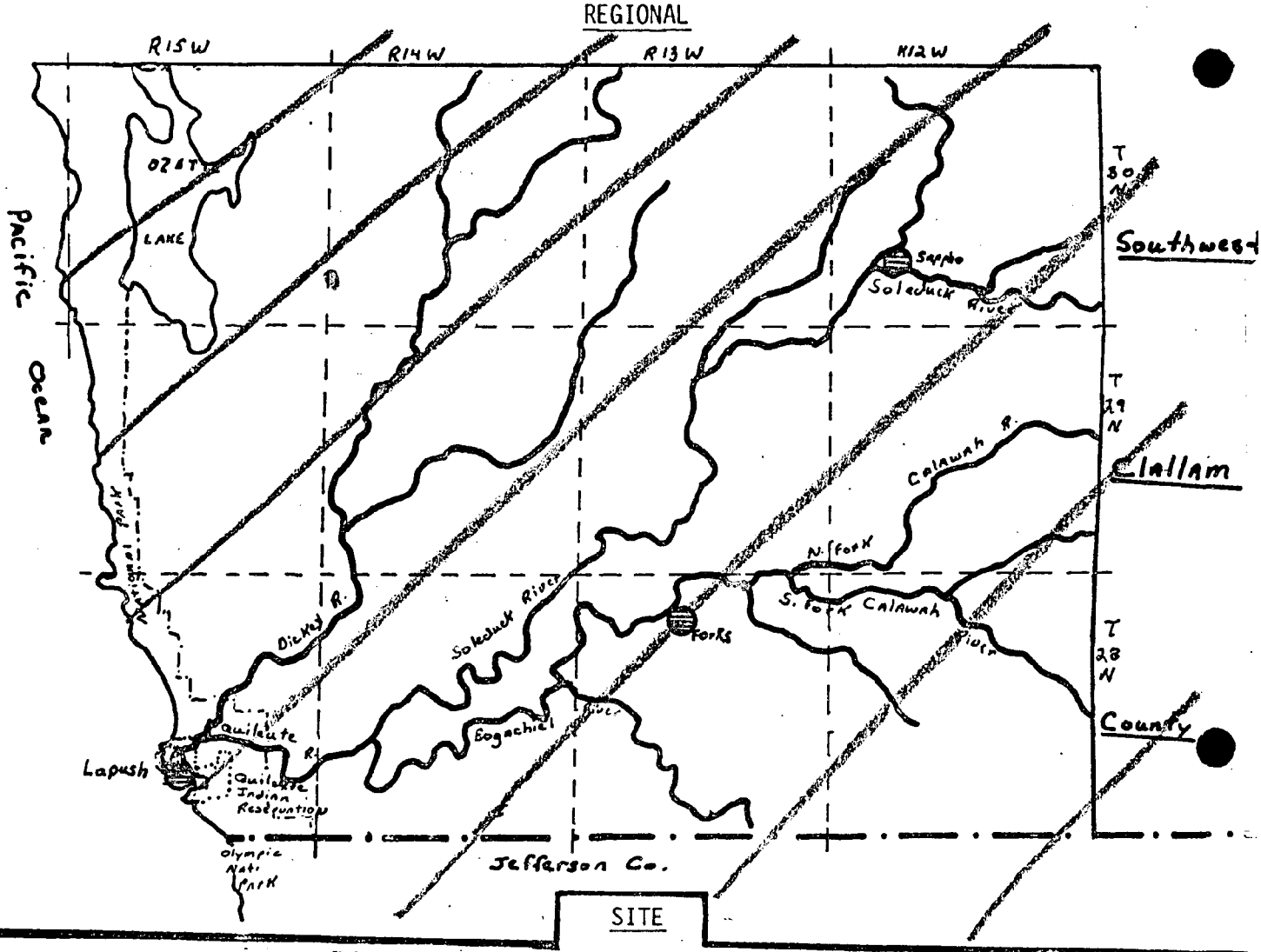
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated (x) scale (x) accuracy ( ) availability ( ) cost ( ) other

Comments: Not site specific, suitable for regional background data only.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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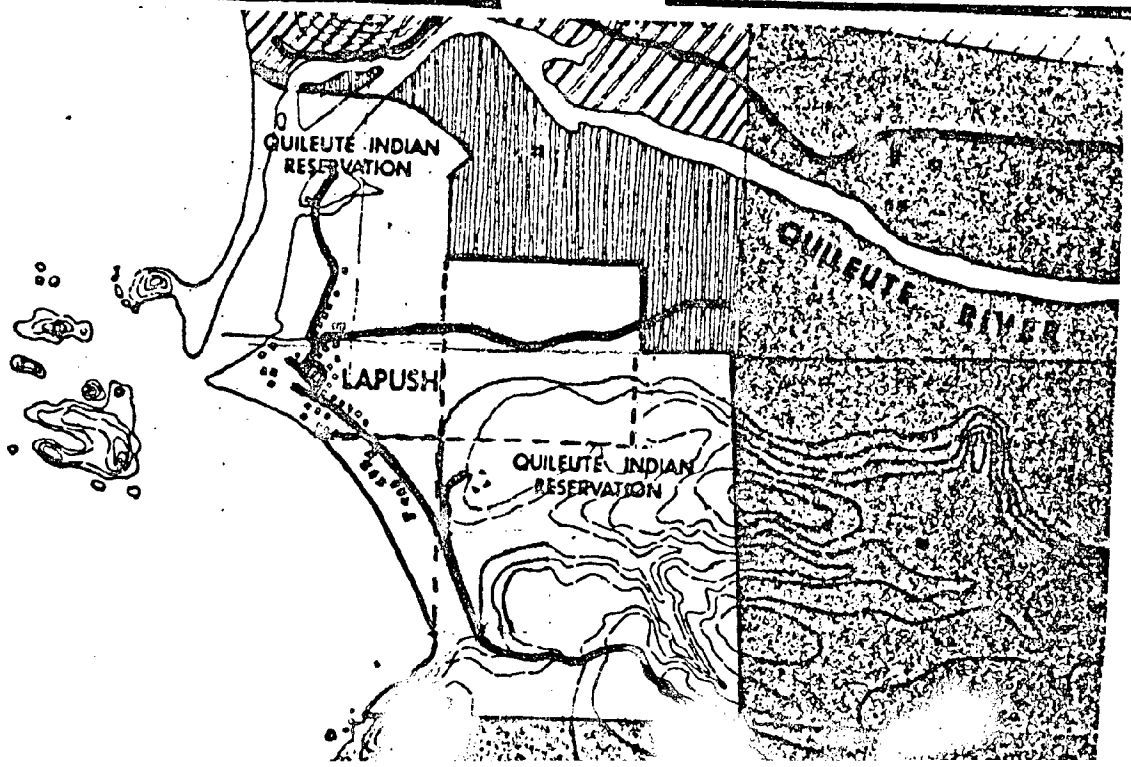


Southside
Community
Consultants

Name BB

Date 6/15/78

DATA SURVEY FORM

I. Variable Name Land use capability classes for Olympic Basin (including specific figures for Quileute River)

II. Source U.S. Dept. ofAgriculture, Southwestern Washington River Basins, 1974 Page 2-5, 2-21, 2-25, 2=35

III. Contact Person/ Location of Data Clallam County Planning Library

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text (x) tabular ( ) digital ( ) other
2. Scale of data: regional
3. Contour interval:
4. Level of detail: (minimum geographic area) land use by total acres
5. Agency that generated data: U.S. Dept. of Agriculture
6. Date data produced:
7. Classifications of data:
   a. Number land use by land ownership; present land use (19 different uses identified)
   b. Listing erosion hazard classes by watershed; soils having excess water; erosion. Hazard classes - none, slight, moderate & severe (total acres of each); no specific locations identified within watershed.
8. Is data available? (x) Yes ( ) No
9. Cost of data:

EVALUATION

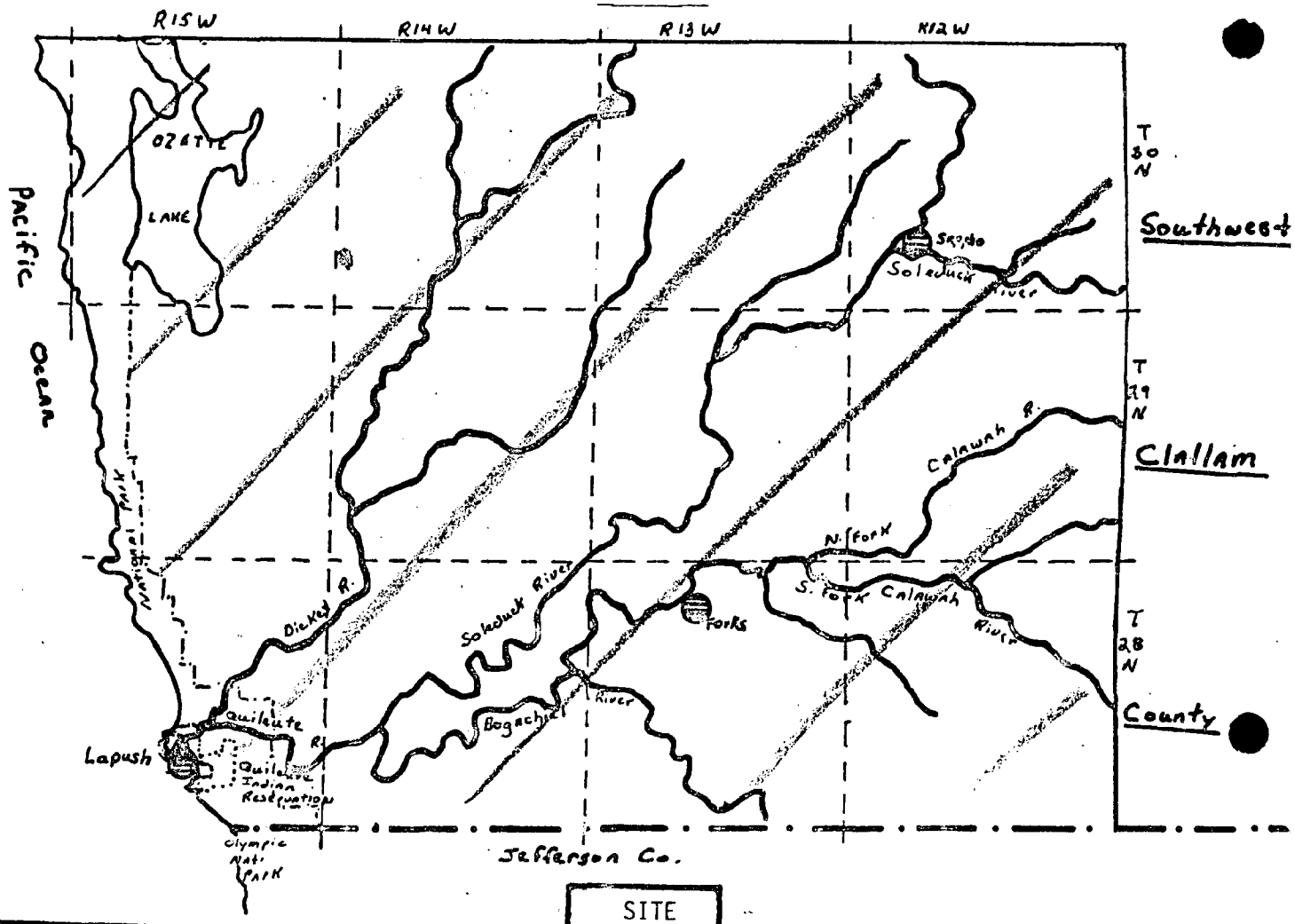
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: ( ) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost ( ) other

Comments: None of the information is mapped; offers broad total acreage figures for total basin (watershed) region.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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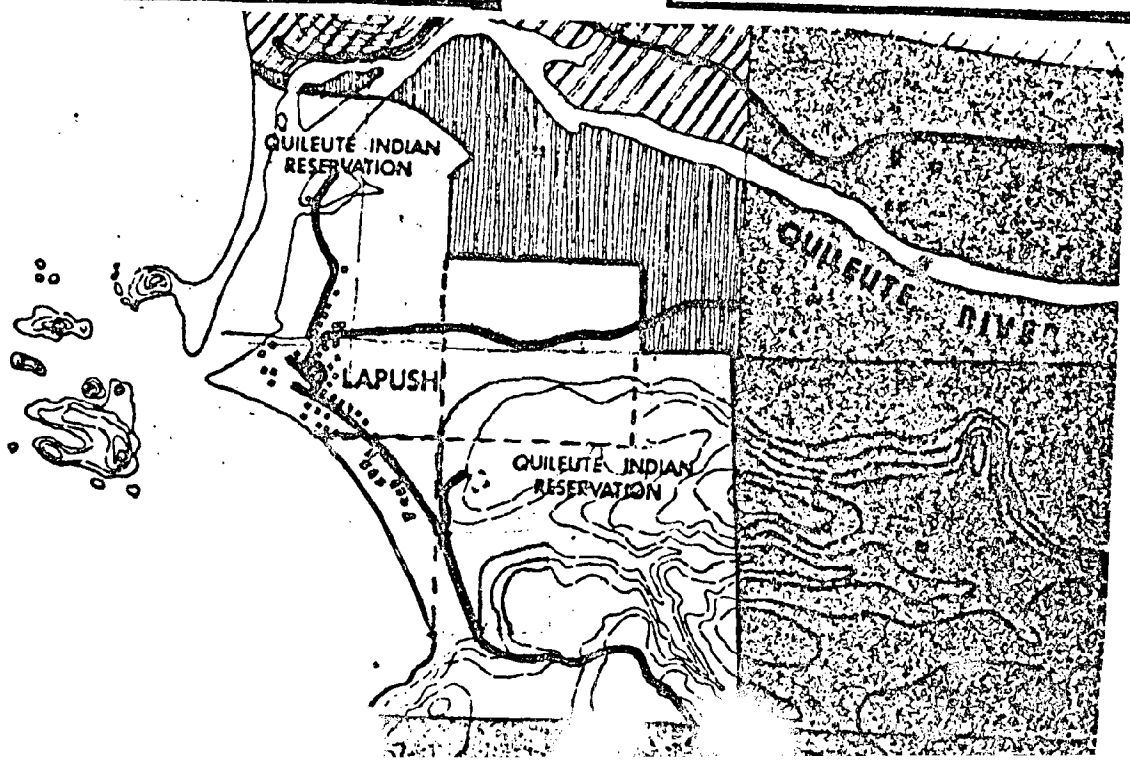


Southside
Community
Consultants

Name KG

Date 9/7/77

DATA SURVEY FORM

I. Variable Name Land Use and Settlement

II. Source Soil Conservation Service, Page 7-14
Soil Survey - Clallam Co., 1951

III. Contact Person/
Location of Data
Provided by tribe.

CHARACTERISTICS OF DATA

1. Source format: ( ) mapped ( ) air photo (x) text ( ) tabular ( ) digital
( ) other

2. Scale of data: NA

3. Contour interval: NA

4. Level of detail: Countywide with some specific references to location
(minimum geographic area)

5. Agency that generated data: SCS

6. Date data produced: 1938

7. Classifications of data:
   a. Number
   b. Listing Industry, agricultural production, residential land use.

8. Is data available? (x) Yes ( ) No

9. Cost of data:

EVALUATION

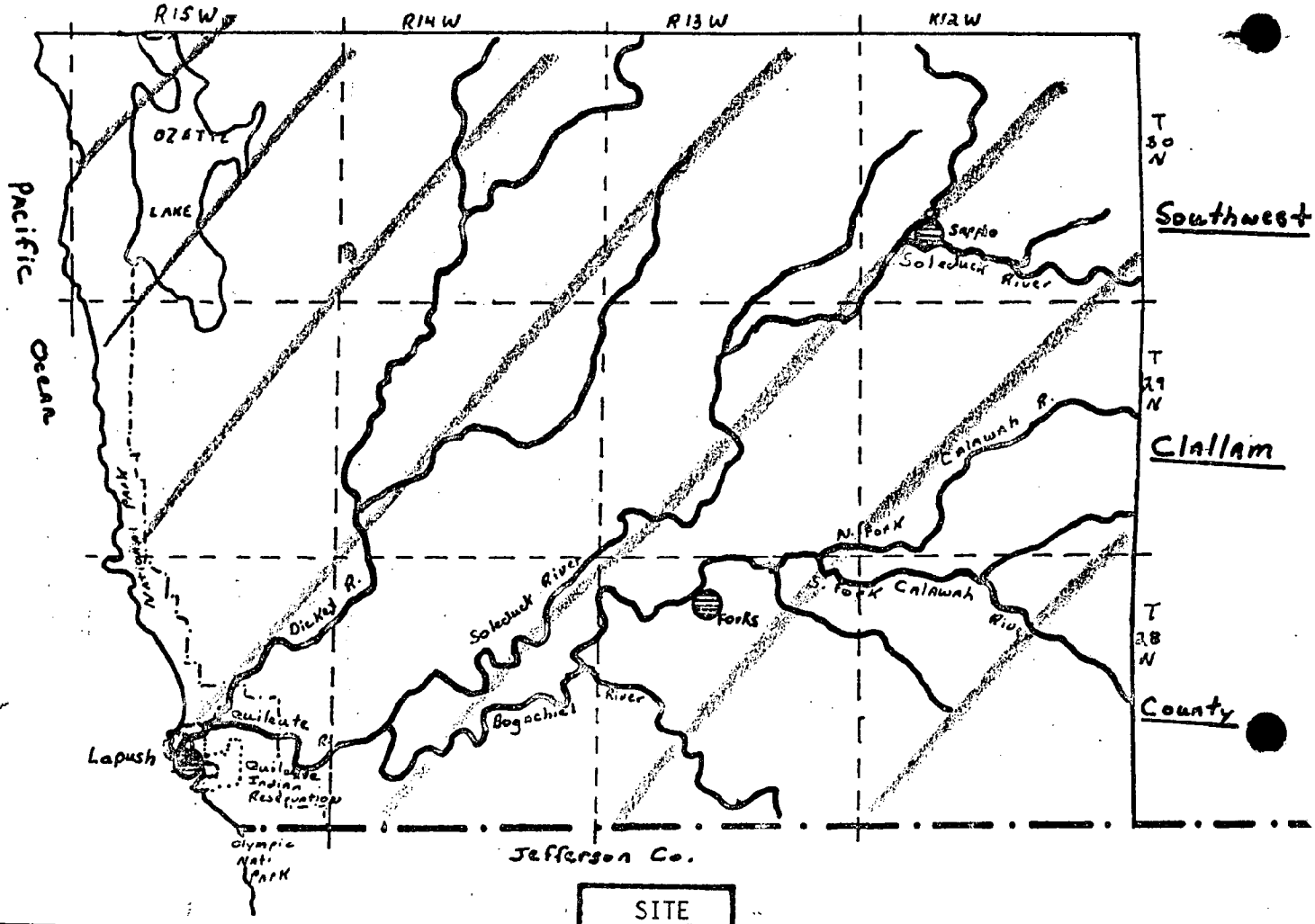
Suitability: ( ) suitable ( ) suitable with modification (x) not suitable

Limitations: (x) outdated ( ) scale ( ) accuracy ( ) availability ( ) cost
( ) other Not mappable, not site specific.

Comments: Suitable as background at regional scale only.

GEOGRAPHICAL REFERENCE AND COVERAGE

REGIONAL



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